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NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

THESIS

**HEALTH SECURITY INTELLIGENCE: ASSESSING
THE NASCENT PUBLIC HEALTH CAPABILITY**

by

Scott Minarcine

March 2012

Thesis Advisor:
Second Reader:

Robert Simeral
Lauren Wollman

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**HEALTH SECURITY INTELLIGENCE: ASSESSING
THE NASCENT PUBLIC HEALTH CAPABILITY**

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Submitted in partial fulfillment of the
requirements for the degree of

**MASTER OF ARTS IN SECURITY STUDIES
(HOMELAND SECURITY AND DEFENSE)**

from the

**NAVAL POSTGRADUATE SCHOOL
March 2012**

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ABSTRACT

This thesis explores the current state of public health's (PH) intelligence capability across State, Local, Tribal and Territorial (SLTT) jurisdictions through qualitative analysis of current public health jurisdiction plans for the collection, analysis, product creation, dissemination and programmatic oversight related to public health inputs into the homeland security intelligence apparatus. An assessment was conducted using an online Plan Assessment Tool, or PLAT, that allowed jurisdictional public health leadership to provide de-identified responses. This assessment of 25 of the 62 federally funded SLTT public health preparedness programs indicates one impediment to the continued maturation of this new intelligence capability is the lack of codified plans. The results also suggest that while public health programs at the SLTT level do indeed have much room for improvement, there is a burgeoning intelligence capability within public health. However, to sustain and improve this emergent capability will require a national effort to create mission focus and centralized guidance.

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LIST OF ACRONYMS AND ABBREVIATIONS

CDC	Centers for Disease Control and Prevention
COP	Common Operational Picture
CPG	Comprehensive Planning Guidance
DHHS	Department of Health and Human Services
DHS	Department of Homeland Security
DOJ	Department of Justice
EARS	Early Aberration Reporting System
EMS	Emergency Medical Services
ER	Emergency Room
FAQ	Frequently Asked Questions
FLETC	Federal Law Enforcement Training Center
FY	Fiscal Year
GAO	Government Accountability Office
GDPH	Georgia Department of Public Health
GISAC	Georgia Information Sharing and Analysis Center
HIPAA	Health Insurance Portability and Accountability Act of 1996
HLS IC	Homeland Security Intelligence Community
HLS	Homeland Security
HSI	Health Security Intelligence
HSIA	Health Security Intelligence Analyst
HSIN	Homeland Security Information Network
IC	Intelligence Community
iCAV	Integrated Common Analytical Viewer
IFCAT	Intermediate Fusion Center Analyst Training
LLIS	Lessons Learned Information Sharing System
MOU	Memorandum of Understanding
NBIC	National Biosurveillance Integration Center
NCMI	National Center for Medical Intelligence
OHA	Office of Health Affairs

PH	Public Health
PHEP	Public Health Emergency Preparedness
PHER	Public Health Emergency Response
PLAT	Planning Assessment Tool
RFIs/FYIs	Requests For Information/For Your Information
RN	Registered Nurse
RSS	Really Simple Syndication
SENDSS	State Electronic Notifiable Disease Surveillance System
SLTT	State, Local, Tribal and Territorial
TFAH	Trust for America's Health

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I. INTRODUCTION

A. A SCENARIO

It's 5:00 pm on a Thursday night. Jennifer, an epidemiologist with the Georgia Department of Public Health is preparing to make one final check of the State Electronic Notifiable Disease Surveillance System. Known as SENDSS, this system allows epidemiologists to spot trends in health information related to signs and symptoms of patients who visit emergency rooms (ER), among other things. The system uses sets of predefined variables to “flag” activity, which may indicate disease outbreaks ranging from influenza to a terrorist attack utilizing anthrax. Recently, Jennifer, working with Georgia's Health Security Intelligence (HSI) analyst, Jim, defined a set of criteria to flag signs and symptoms related to possible drug overdose cases presenting in the ER.

Today, for the first time, Jennifer sees a spike in activity in this data set. The spike is related to two emergency rooms about 20 miles from one another. Five cases have presented with similar medical complaints over three days. Jennifer calls Jim to pass along the information. Jim, working in Georgia's Fusion Center, known as the Georgia Information Sharing and Analysis Center (GISAC), passes the information to the law enforcement representative. He, in turn, calls the local police department to notify it of this new activity.

The investigation sparked by the intelligence Jim provides quickly identifies a new, highly potent drug being distributed in the area on which users, unfamiliar with the potency, are likely to overdose. Additionally, a gang new to the area is distributing this drug. Not only is the drug removed from the area, but also, gang interdiction activities begin almost immediately.

While this scenario is fictional, the integration of health security intelligence into the homeland security mission has already begun. Florida, for example, has established a database that tracks pharmacy prescriptions, which may indicate the illegal activity. Similarly, a myriad of systems including Georgia's SENDSS and Google's “Flu Trends”

website (Googel.com, 2012) are actively used to monitor infectious disease outbreaks via the Internet. However, the potential related to health security intelligence is just now being realized. The opportunity exists for health security intelligence to be an integral part of the homeland security intelligence mission at the state, local, tribal and territorial (SLTT) levels throughout the nation. Public health's involvement in the homeland security environment is just beginning to take shape.

B. PROBLEM STATEMENT

With the passage of Public Law 104-201, The Defense Against Weapons of Mass Destruction Act, on December 23, 1996, public health, as a discipline, began to see an emergent role for its practitioners, one that was highly divergent from its stated core mission of the time. The need for the public health discipline to prepare the nation to prevent, mitigate, respond to and recover from attacks and other events, which would have widespread consequences on the public's health, was a daunting challenge. With the anthrax attack of October 2001, public health's role in the soon to be anointed homeland security (HLS) apparatus would truly come to the fore. Now, having just passed the 10th anniversary of those anthrax attacks, public health still faces challenges in demonstrating its utility beyond simple communicable disease surveillance and response.

With an increased emphasis on the role of SLTT professionals in the HLS mission, the advent of the new capabilities, like the fusion centers, seemed to be an opportunity finally to begin to define Public Health's role in HLS and improve its ability to participate in the HLS mission. This has not been the case. Although public health practitioners have access to a myriad of information sources providing both real time, raw data, and processed, oftentimes unanalyzed data, it has lacked the necessary formalized processes to ensure a continued maturation of intelligence related capabilities. Indicators as varied as increased demand for a certain pharmaceutical or significant increases in the number of individuals seeking drug treatment in local communities could be valuable early warning indicators of events, such as preparations for an attack with a biological weapon or an increase in drug trafficking in the area when processed through the health security intelligence lens.

Despite the potential added value of public health's capabilities with the HLS environment, public health practitioners have often found themselves playing a limited role, especially as it pertains to the intelligence community. To participate more fully in the broader HLS mission, and more specifically, in the HLS intelligence community (HLS IC), a concerted effort by public health will be necessary.

Recently, public health jurisdictions at the state, local, tribal and territorial levels, have begun to integrate the intelligence mission into their jurisdictions' preparedness and response paradigm; yet, to what end? No current national guidance documents for the creation of a public health capability to contribute to the HLS IC mission, and no formal funding streams exist for the establishment and maintenance of these activities, and still no single overarching definition related to the collection of public health data for the purposes of intelligence. At this point, the public health capabilities related to intelligence are fragmented and immature. To become a more effective partner in the HLS IC, it will be necessary to develop the skills to analyze data as intelligence, create a framework by which health security intelligence can be fused with intelligence from the traditional IC, develop intelligence products for distribution and ensure the necessary processes are in place to measure, and ultimately, improve the HSI capability. In creating a HSI capability, public health has an excellent opportunity to maximize participation in the HLS mission. First, however, the public health community must develop a concerted, formalized, HSI capability across all levels of the SLTT jurisdictions.

C. THE CASE FOR A HEALTH SECURITY INTELLIGENCE CAPABILITY

The emergent government paradigm now known as homeland security has been one fraught with organizational challenges related to the integration of the core components necessary to protect the United States from terrorism, whether domestically or internationally derived. At least 22 separate organizations now comprise the Department of Homeland Security (DHS) at the federal level (Light, 2007). SLTT partners further expand the number of entities that play a role in securing the homeland. Nowhere has this transition been more apparent than in the Intelligence Community (IC). The need to merge foreign and domestic intelligence capabilities quickly, once

considered necessarily separate, while incorporating new, non-traditional partners, such as public health, into one overarching HLS IC has created numerous culture clashes, organizational uncertainty and mission ambiguity. The incorporation of public health agencies into what has been a law enforcement dominated domestic intelligence community has further exacerbated the cultural shock and organizational upheaval that has occurred since 9/11.

Public health agencies had little experience working with their counterparts in the law enforcement and intelligence communities, often resulting in frustrating interaction demonstrating little benefit to either side. Additionally, the public health role in the HLS IC was initially ill defined and widely unrecognized. Public health still faces a myriad of cultural, organizational and strategic issues related to its integration into the HLS IC. A 2005 report by the National Governors Association found that,

As emergency management and homeland security evolved, public health officials frequently found themselves at the periphery of preparedness and response efforts. This lack of integration into homeland security structures has been further hindered by a public health culture sometimes at odds with decision-making approaches favored by other first response agencies and a public health infrastructure that has lagged behind other response agencies in terms of involvement. (Mitchell, 2005, p. 1)

Recently, however, this situation has begun to change. In 2007, the Office of Health Affairs (OHA) was established within the DHS with a mission, "...to protect the health and security of the American people in coordination and collaboration with other DHS components, federal, state and local partners, and the private sector..." (Department of Homeland Security 2011). Two years later, a key tenet of the National Health Security Strategy of the United States of America, published by the U.S. Department of Health and Human Services (DHHS) in December of 2009 was to "Gather, consolidate, and retain raw data and information from human sources, observation, technical sources, and open (unclassified) or protected (classified) materials; analyze these data to identify trends, indications, and/or warnings of criminal and/or terrorist activities (including planning and surveillance)" (United States Department of Health and Human Services, 2009). In 2011, the Centers for Disease Control and Prevention (CDC) published the

“Public Health Preparedness Capabilities: National Standards for State and Local Planning, March 2011.” In that document, written plans for jurisdictions involved in information exchange with partner agencies should have, “Clearly defined intelligence requirements that prioritize and guide planning, collection, analysis, and dissemination efforts” (Centers for Disease Control and Prevention, 2011b).

While the need for public health’s involvement in the HLS IC is well established and efforts are being made to create a foundation for a concerted national Health Security Intelligence capability, much remains to be done.

D. RESEARCH QUESTION

How has public health responded to the need to create a Health security intelligence capability and what remains to be accomplished?

E. SIGNIFICANCE OF RESEARCH

Health security intelligence is still an emergent term, at best. The research literature related to public health’s involvement in the intelligence paradigm is sparse. Although frequent mentions of the need to involve public health in the intelligence collection, analysis and product development process have begun to appear in government reports, congressional testimony and related products, this author could only identify one federal guidance document that pertained directly to the implementation of public health and medical professionals in the intelligence space. This document focused on the integration of public health and medical personnel into the fusion center environment, not on how the public health sector should structure its programs to support and mature the HSI capability. By attempting to ascertain how public health programs have begun to establish, formalize, fund and mature their health security intelligence programs, beneficial contributions to the public health, homeland security and intelligence fields can be realized.

F. ARGUMENT

1. The Case for Health Security Intelligence

The public health discipline at the state and local level collects massive amounts of data on a daily, and sometimes hourly basis. Naratajan (2007) identified at least 25 individual data collection sources accessible to public health practitioners at the state and local level (pp. 47–48). Additionally, federal public health agencies are rolling out new products, such as the recently redesigned Biosense program at the CDC, which augment or amplify these data collection activities (Centers for Disease Control and Prevention, 2011b).

This information is used to establish long-term health trends, identify emerging infectious diseases, and even detect the presence of biological agents potentially linked to terrorist activity. Despite these significant data collection efforts, public health jurisdictions at the SLTT level have made little progress in establishing a formal capability to utilize these data streams as inputs into the intelligence process. Instead, public health jurisdictions have been content simply to maintain the status quo, even in the face of increasingly ample amounts of evidence that substantial contributions can be made to the intelligence community.

The failure to formalize intelligence efforts in the public health field is not new. In his 1998 testimony before the Subcommittee on National Security, International Affairs and Criminal Justice, Committee on Government Reform and Oversight, House of Representatives, Richard Davis, the Director of National Security Analysis, National Security and International Affairs Division, noted that public health, through the Department of Health and Human Services, was one of just five agencies charged with the development of various capabilities aimed at preventing or mitigating the damage done by a weapon of mass destruction (Observations on the Bunn-Lugar-Domenici Domestice Preparedness Program, 1998, p. 4). Since that time, the anthrax attacks of 2001 have spurred numerous initiatives in the public health domain to increase its epidemiological surveillance capabilities. While critical to the public health mission, simply providing information to the existing HLS IC actors possibly indicating an

emerging infectious disease is no longer sufficient. For public health to avoid the type of shortsighted failures of imagination that the 9/11 commission found leading up to the attacks, it must move its intelligence efforts to the fore.

Numerous opportunities are currently being lost due to the lack of a formalized HSI capability. From lack of inclusion in state and local fusion centers, to difficulty relating to other homeland security intelligence practitioners, public health has consistently failed to leverage its considerable expertise and experience to contribute to the intelligence process. Developing a concerted health security intelligence analysis capability, and training individuals in the public health domain to utilize HSI information, would do much to improve public health's role in the HLS IC. Additionally, and perhaps most importantly, this capability would provide a dramatic increase the nation's ability to prepare itself for manmade and naturally occurring events of public health significance.

2. The Need for Maturation and Formalization

A mature health security intelligence program must possess the capability to transform raw data and even information that has been processed but not analyzed through the intelligence lens, into a consumable intelligence product. Krizan states the intelligence process is comprised of many integrated and mutable components that include the following.

- Needs
- Collection Activities
- Processing of Collected Information
- Analysis and Production

As the production of intelligence is inherently difficult, for public health to avoid failures in the intelligence domain, it must develop an intelligence community within its ranks (Krizan, 1999, p. 7).

In their book, *Transforming U.S. Intelligence*, Sims and Gerber (2005) found that,

Information shortfalls, notwithstanding, however, numerous studies of many if not most of the cases defined as intelligence failures in recent decades have demonstrated that they resulted as much if not more from what was or was not done with information that had been acquired—that is, how it was collated, interpreted and communicated. (p. 116)

Hillen (1998) supported the issue of having an overreliance on the sheer volume of data collection rather than sound analysis in his 1998 article for the *National Review*. Public health faces just this kind of potential failure today. It has the ability to collect and interpret data for other public health practitioners, but it lacks the ability to analyze that information from the intelligence perspective and turn it into an intelligence product that will confer understanding and contextual meaning to those outside the public health domain, a potentially serious shortfall to say the least. Paul (2010) states, “Information does not typically come neatly packaged and labeled to indicate its subject matter or domain of interest. Information from one domain may prove valuable in another, often at a different time and in another form.” Information that initially surfaces in the public health domain may later be determined to have implications for counterterrorism, and vice versa” (Kshemendra, 2010, p. 7). The ability for public health to communicate its findings with other agencies or actors within the intelligence community and broader homeland security environment is of the utmost importance.

3. The Need for Better Analysis

In its quest to enter the intelligence community, public health cannot hope simply to transform its infectious disease practitioners, epidemiologists or other public health professionals into analysts by simply changing their job title. The analysis of intelligence is a learned skill. Analysts need both training and experience to become effective at transforming raw data and information into intelligence products. The intelligence analyst faces a broad series of challenges in interpreting the raw data provided. From interpretation to dissemination, the analysis of intelligence requires a skilled individual able to assess and reassess preconceptions, data inputs and new situational developments constantly. Current public health practitioners have little familiarity with the intelligence

cycle, the needs and requirements of consumers outside of public health, and lack the ability to package products in such a way to be interesting to and understood by those in the traditional homeland security community. As Lowenthal (2009) states, “Analysis is much more than sitting down with the collected material, sifting and sorting it, and coming up with a brilliant piece of prose that makes sense of it all” (p. 112). To ensure that public health can contribute meaningfully to the intelligence process, it will need to ensure it builds the capacity to analyze its data as intelligence skillfully.

4. The Benefits to Public Health

The public health mission in homeland security has continued to evolve since 2001. This evolution has seen increased calls for public health to participate in the homeland security intelligence community process. In a 2005 report published by the National Governors Association for Best Practices, outlining the ways in which public health could become better integrated into the HLS community, it was stated, “To better integrate public health into their homeland security structures, states should...include public health fully in homeland security intelligence and analysis” (National Governors Association, 2005, p. 1).

Similarly, a key tenet of the National Health Security Strategy of the United States of America, published by the U.S. Department of Health and Human Services in December 2009, is to “Gather, consolidate, and retain raw data and information from human sources, observation, technical sources, and open (unclassified) or protected (classified) materials; analyze these data to identify trends, indications, and/or warnings of criminal and/or terrorist activities (including planning and surveillance)” (United States Department of Health and Human Services, 2009, p. 24). Most recently, in the CDC guidance document, “Public Health Preparedness Capabilities: National Standards for State and Local Planning, March 2011,” it is stated that written plans for jurisdictions involved in information exchange with partner agencies should have, “Clearly defined intelligence requirements that prioritize and guide planning, collection, analysis, and

dissemination efforts” (Centers for Disease Control and Prevention, 2011b, p. 59). What remains unclear, however, is whom in the public health domain would provide this analysis capability.

Public health will see other benefits from developing the ability to interact equally with its HLS partners in the IC. Miller notes that although sharing of information is critical to the HLS community connecting the proverbial dots, “Homeland security leaders and practitioners that possess...desired information may be in a position to leverage this exchange value within the homeland security intelligence community or with other homeland security decision makers for political, organizational, or information advantage” (Miller, 2010, p. 62). Public health has a vested internal interest to being able to contribute to the IC and provide information valuable to its partners. Being able to provide this capability will not only increase the value of public health to the IC, but also will engender greater familiarity with non-public health HLS actors with public health’s capabilities and mission.

5. The Importance of Written Plans

Public health must continue to develop an intelligence capability internally. This process should start with the development of a written plan for a concerted HSI program. The plan should account for the need to train analysts, inclusion in the fusion center environment where applicable, oversight and accountability of the data, product reliability/usefulness, appropriate privacy protections and, when possible, identify and appropriate funding to grow and sustain the HSI program. Once established, the plans should be used as a living document, evolving to meet the continued needs of both the HSI and HLS IC, as well as account for the maturation of the program. Non-public health actors, working with trained health security analysts, will be able to leverage these resources in new and innovative ways.

6. Privacy and Security Considerations

Concerns of privacy and domestic surveillance have shown a remarkable rise over the last five years. The recent controversy revolving around cooperation between the

Central Intelligence Agency and the New York Police Department highlight the need to ensure transparency and accountability for the assurance of civil and privacy protections (Caray, 2011). As much of the data and information public health accesses is de-identified prior to its being reported, the concerns about privacy should be relatively easily addressed. The state of Florida, for instance, recently rolled out a database for tracking prescriptions. This database is for use primarily to counter the illegal dispensation of prescriptions for controlled substances. While the database faced criticism from both privacy advocates and those concerned with cyber security, the concerns were ultimately addressed and the system was allowed to come online (Geggis, 2011). The Frequently Asked Questions (FAQ) for the Florida Drug Prescription Monitoring Program indicates the site is compliant with both the Health Insurance Portability and Accountability Act of 1996 (HIPAA), as well as with the best practices of the cyber security industry (Prescription Drug Monitoring Program, n.d.). As the public health sector continues to develop and refine its HSI capabilities, transparency and considerations for both privacy and security must be given due attention. Transparency in how these two activities are being accomplished will need to be achieved for the public to feel comfortable with HSI.

7. A Definition

To advance this topic throughout the thesis, the author proposes and will demonstrate the term health security intelligence be utilized, recognizing the limitation of the term. To foster an understanding of the concept, he also proposes the definition of health security intelligence as information derived from the gamut of public health and medical data sources, which can be collected, analyzed, packaged as a product and disseminated as intelligence.

It would necessarily follow then that a health security intelligence program is one that enables the collection, fusion, analysis, product creation, and dissemination of intelligence from sources public health practitioners and medical professionals access that may affect the day-to-day activities or security of the nation or national assets.

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II. LITERATURE REVIEW

A. PURPOSE

The purpose of this thesis is to explore the framework upon which public health can continue to improve its HSI capability. Public health, as a discipline, still struggles to provide meaningful inputs into the HLS intelligence process. While a variety of contributing factors exist, the most predominant is the need for public health to begin formalizing and professionalizing its homeland security analysis component. A failure to begin to develop a formalized process, which includes a written plan and processes for HSI programs, could threaten to undermine public health's role in the HLS arena altogether. Public health must create a framework to allow analysts to be provided with enough initial intelligence analysis training to make it possible for them to gain experience from interacting with other HLS IC practitioners, as well as benefit from follow on training in intelligence analysis. Concurrently, newly trained Health Security Intelligence Analysts (HSIAs) will need to work with their parent agencies to ensure development of the ability to synthesize raw data in such a way an analyst can identify and contextualize it. The literature on health security intelligence can be classified into six distinct areas: general state and local intelligence literature, literature concerning intelligence analysis, in a limited quantity, literature dealing specifically with HSI, literature in the organizational, managerial, information management and knowledge management spaces, literature addressing planning necessity, benefits and efficacy and finally, information related to privacy and security of information.

B. THE STATE AND LOCAL ROLE IN INTELLIGENCE ANALYSIS

The state and local role in intelligence analysis is prevalent throughout the literature. The development of state and local fusion centers has proved a fertile ground for exploration of this topic. Connors and Rollins (2007) write, "Following this trend, fusion centers are evolving into one-stop shopping organizations that are responsible for analyzing all-hazards threat information, tracking asset location and operational

readiness, and issuing reports related to current, emerging, and future threats” (p. 3). Their contention is that fusion centers provide a perfect environment, as their name implies, for the synthesis of multiple intelligence types from many disciplines within the homeland security sector, at the state and local level.

This concept is important to the public health role in the HLS IC as the vast majority of public health data collection occurs at this level. Without analyst training for public health at the state and local level, little hope exists of an effective health security intelligence capability. Osborne asserts it is critical to improve intelligence analysis at the state and local level through the development of a cadre of trained analysts. While her work is focused within the law enforcement community, its relevance to public health, or any other state or local agency involved in homeland security, is easily understood; analysts are not born, they are made, through training and experience. She also argues that state and local personnel numbers dwarf the federal government and a vast, untapped potential remains to provide intelligence analysis (Osborne, 2006). A January 2012 report by the Aspen Institute Homeland Security Group (2012) most recently supported this notion by stating part of the DHS’s mission focus moving forward should be, “...integrating intelligence vertically through DHS elements; and working with state/local/private sector partners to draw their intelligence capabilities into a national picture and provide them with information” (p. 1). Providing HSIA training consistent with the broader HLS IC will allow for a more rapid integration into the community, as well as help ensure the quality and reliability of their outputs.

C. THE IMPORTANCE OF ANALYSIS IN INTELLIGENCE

Public health’s entry into the HLS IC will require a ground up development of capability. The intelligence cycle is complex, and as Miller (2010), citing Quiggin asserts, is comprised of multiple stages. “The production of intelligence is a three part process: 1) data is collected through observation, 2) that data is converted into information by analysis and the 3) analysis becomes potential understanding to an intelligence consumer through creation of a deliverable (report or briefing) that can be applied to a specific decision or problem set within the threat environment” (p. 17). In her

primer on intelligence, Krizan (1999) quoted Dearth as stating, “[I]n fact, the [process] is multidimensional, multi-directional, and—most importantly—interactive and iterative” (p. 8). Her graphic related to the intelligence cycle provides a more nuanced representation than Quiggin’s description and demonstrates the analysis process is not simply a one-dimensional production of raw data into an intelligence product.

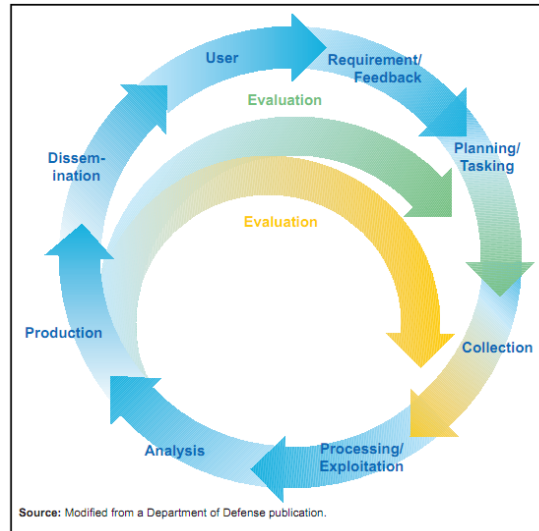


Figure 1. Intelligence Essentials for Everyone (From: Krizan, 1999)

Analysts must be trained to be cognizant of the myriad factors that can influence their production of intelligence. To this end, Richards J. Heuer’s work on the psychology of intelligence analysis spends a great deal of time examining the preconceptions and “mind sets” that drive analysts’ interpretation of events. “Analysts do not achieve objective analysis by avoiding preconceptions; that would be ignorance or self-delusion. Objectivity is achieved by making basic assumptions and reasoning as explicit as possible so that they can be challenged by others and analysts can, themselves, examine their validity” (Heuer, 1999, p. 10). For analysts to learn to challenge preconceptions, training and experience are necessary. Only through training and practice can analysts learn to accept and work through the psychological limitations of the human mind. To build this capacity, public health practitioners must develop familiarity with the intelligence

process at both the operational and leadership levels. This familiarity is particularly important for public health practitioners to account for, as many potential HSIAs currently conduct a very different type of analysis that will affect their ability to conduct analysis for the purposes of producing intelligence products.

In his book, “Knowledge Management in the Intelligence Enterprise,” Edward Waltz (2003) describes a new era in which knowledge acquisition, management and manipulation become preeminent skills for the intelligence community, surpassing for the first time, the need to collect greater amounts of raw data that makes the ability to discern the valuable aspects of the collected information, the need for adept analysis, critical. Finally, Lowenthal describes the need for training and experience in techniques of analysis in discussing how to get through the vast amount of information at the analysts’ fingertips today.

Sifting is not just a matter of getting through the accumulated imagery, signals, opens sources reporting and other data. It is also the much more important matter of seeing this mass of material in its entirety, of being able to perceive patterns from day to day and reports that are anomalous. There are no shortcuts. Sifting requires training and experience. (Lowenthal, 2009, p. 117)

With the numerous public health data streams constantly feeding new information to public health professionals, Lowenthal’s work demonstrates the criticality of trained analysts analyzing the information through the intelligence lens.

Another aspect of the literature that demonstrates the importance of analysis is the necessity for the consumer to trust the analysis, while understanding the limitations of the intelligence products. The Markle Foundation Task Force (2006) found, “...indiscriminate reporting of unverified information, without regard to information quality, reliability or usefulness, or without considering the receiving agency’s ability to analyze the information, is not the effective information sharing environment that is needed to contribute to better protecting the country from the threat of terrorism” (p. 19). The Director of National Intelligence (2007) similarly stated in his, “Intelligence Community Directive Number 200, Management, Integration and oversight of Intelligence Community Analysis,” referred to as the “capstone Intelligence Community

(IC) Directive (ICD) for Analysis,” that the policy memo states, “Sound Tradecraft is essential; without it, collaboration will be difficult and customers will lack confidence in IC judgments. Consistent attention shall be given to ensuring methodologies are sound and shared, the depth of analytic expertise is appropriate, and training is aggressive and continual and adheres to tradecraft standards” (p. 2).

The policy memo further highlights the need for public health to professionalize its analysis capability. Ensuring that public health can produce trusted intelligence products, useful to the reader or policy maker, will be critical in its drive to further the public health aspects of the HLS mission.

The final area within the literature related to the importance of intelligence analysis rests with the need to provide information culled from all the available agencies and resources to provide the broadest possible coverage of potential threats and hazards policy makers face. Toner (2009) work on situational awareness is salient to this area of the literature, stating, “To achieve situational awareness, the right information (without a lot of noise) is available at the right time, and the right person is prepared to receive it, is capable of analyzing it, and is then able to do something useful with it” (pp. 1–2). Public health’s effort in creating a new intelligence capability will require early work in not only identifying what type of personnel in the public health domain will become good analysts, but also a need to build a system wide capacity to integrate its data with that of other disciplines to create the ability to, “...do something useful with it.” To that end, Pritchett proposed a model of information fusion specifically for achieving this kind of fusion of public health information with that of the other HLS disciplines. Her model centers on the idea of creating information fusion and, “...demonstrates the need for the Public Health and medical community to improve collaboration across sectors to produce a more integrated product that enhances the understanding of the entire community...” (Pritchett, 2008, p. V). The Pritchett model provides an excellent tool through which HSIAs can process and integrate their intelligence products with those of other HLS disciplines.

D. PUBLIC HEALTH AND MEDICAL INFORMATION AS INTELLIGENCE

The literature related specifically to HSI is much less densely populated. However, the number of references for the need to create a capability for the incorporation of health and medical information into the intelligence environment has been increasing. The literature does not specify how to accomplish this capability, provide an overview of best practices, or describe metrics for the assessment of performance for those programs that have established one involving public health in the intelligence process. For instance, in 2009, the Department of Health and Human Services established the National Health Security Strategy (NHSS).

This document clearly articulates the applicability of public health and medical information to the national security and homeland security missions, stating:

...the health of a nation's people has a direct impact on that nation's security. Any large-scale incident such as a natural disaster or an infectious disease pandemic that affects the health of critical workers and compromises a society's ability to provide food, water, health care and, more broadly, economic productivity endangers the security and stability of that society. (United States Department of Health and Human Services, 2009, p. 3)

As the document is primarily focused on national strategy, it does not describe how the information related to these events should be operationally incorporated into the HLS environment or the intelligence arena. The Department of Justice (DOJ), along with the DHS's OHA, jointly published a document related to the incorporation of public health and medical personnel into the fusion center environment. While this document referenced the need to assist public health and medical personnel in acclimating to the fusion center, it assumed the programmatic infrastructure was already in place within the public health jurisdictions. It also did not define criteria for a definition related to public health or medical intelligence or establish criteria that public health departments could use to guide development of a program.

Natarajan (2007) first described a modern, public health centric definition for "domestic medical intelligence, "I propose that we define domestic medical intelligence

as that category of intelligence resulting from the collection, integration, analysis, and dissemination of natural and man-made psychological, chemical, biological, radiological, environmental, and agricultural information with a Public Health and health care focus that may influence the day-to-day activities or national security of the nation or national assets” (p. 76). This definition was based on previous work, mainly centered in military space. Since 2007, two competing terms, which could inform a consolidated definition, have come to the fore in the literature, biosurveillance and health security. Biosurveillance, as a term, is too limited to provide the overarching definition needed to incorporate all aspects of the data that can be gathered from the public health and medical fields for intelligence purposes. The Government Accountability Office (GAO) in a 2006 report on public health infrastructure described biosurveillance as, “...automated monitoring of information sources of potential value in detecting an emerging epidemic, whether naturally occurring or the result of bioterrorism” (Government Accountability Office, 2005, p. 2). Health security is an emergent term that has undergone considerable evolution in the last decade. A 2008 article in the journal, Health Policy and Planning, explored the definition of health security, with the authors concluding no universally accepted definition exists for this term (Aldis, 2008). This author found additional literature related to this topic via review of policy memorandums, congressional testimony, guidance documents and other federal, state, and local products but nothing that definitively describes a definition or fully conceptualizes the public health entrance into the HLS IC.

E. KNOWLEDGE MANAGEMENT, ORGANIZATIONAL AND MANAGERIAL SCIENCES

An important aspect of the literature, which is also underexplored related to creation of a health security program, is the aspect of fostering inter-organizational integration and information sharing. The organizational, information management, knowledge management and managerial science communities have much to contribute in this area. This area of research can play an important part in optimizing the contribution of public health. Additionally, this area of the literature can help inform the development

of plans, processes and policies that will assist public health organizations with engendering a sense of belonging amongst the more traditional HLS IC players while simultaneously improving the ability to share information effectively.

An area of organizational and managerial science research with abundant literature available is related to the value of information sharing between organizations. The literature explores the costs and benefits organizations incur when attempting to broaden information sharing activities, the processes for assessing these costs, possible existing barriers to information sharing implementation, as well as how organizations are and can be structured to facilitate information sharing.

The first area of this literature applicable to the HSI capability, and information sharing across the entire HLS IC, is the assessment of organizational qualities necessary to support an environment consistent with the ability to share information. Rocha and Miles (2009) state, "...value creation cannot be created without the commitment, trust, sharing of knowledge, and equitable rewards between the central node and the independent firms belonging to the network" (p. 451).

Essentially, no expectation of information sharing between public health programs and the traditional HLS IC should be expected without first ensuring the qualities of trust, demonstrated commitment to the mission, the actual sharing of knowledge, and the established benefits of the contribution public health can make to the HLS IC. Similarly, Barrett and Konsynki (1982) found, "The participation levels increase in degree of participant responsibility, cost commitment and complexity of operating environment" (p. 95). This finding might indicate that if public health programs demonstrate a high level of commitment through, for example, dedicated analysis staff, development of a written plan, memorandums of agreement or understanding, etc., to the HSL IC, the information sharing returns should increase as well. Structuring the public health HSI program with these considerations in mind will produce optimal outcomes.

A second area of the literature worth exploring is related to the costs and benefits of information activities. Dawes produced an excellent chart categorizing information sharing benefits and barriers. The three categories included the technical, organizational and political implications associated with information exchange, as seen in Table 1.

Category	Benefits	Barriers
Technical	<ul style="list-style-type: none"> • Streamlines data management • Contributes to information infrastructure 	<ul style="list-style-type: none"> • Incompatible technologies • Inconsistent data structures
Organizational	<ul style="list-style-type: none"> • Supports problem solving • Expands professional networks 	<ul style="list-style-type: none"> • Organizational self-interest • Dominant professional frameworks
Political	<ul style="list-style-type: none"> • Supports domain-level action • Improves public accountability • Fosters program and service coordination 	<ul style="list-style-type: none"> • External influences over decisionmaking • Power of agency discretion • Primacy of programs

Table 1. Categories of Benefits and Barriers Associated with Interagency Information Sharing (From: Dawes, 1996).

The table clearly defines a number of considerations public health programs will need to assess during the creation of their HSI Programs. By ensuring these issues are thoroughly reviewed during the planning processes, public health programs can better design their processes to foster information sharing.

A third area of the literature, which adds value to the HSI, relates to the various studies related to interorganizational mergers and collaborations. While the literature in this field primarily focuses on private sector corporate mergers, much can be gleaned from the literature that can be leveraged in the creation of HSI programs. This area of the literature deals with the costs, benefits, results and effects of corporate merger and inter-organizational collaboration. The research in this field can help manage participant expectations at the beginning of the HIS program implementation, as well as during the planning phase. For instance, Weber and Camerer (2003) found, “A majority of corporate mergers fail,” and that, “Participants express disappointment in the mergers' results, and

surprise at how disappointed they are” (p. 400). These findings seem to indicate that knowing that simply creating a well-structured planning document related to the HSI program and committing resources to the program that may not provide instant success may not be enough. Sustained effort related to the integration of public health staff, especially HSIA’s, and continued development and evolution of both the internal (to public health) and external aspects of the written HSI plan will most likely be necessary. Indeed, the Government Accountability Office (2007), when assessing the creation of the Department of Homeland Security found, “...successful transformations of large organizations, even those faced with less strenuous reorganizations than DHS, can take five to seven years to achieve. We reported that in successful transformations, organizations undergo a change of their cultures to become more results-oriented, client- and customer-oriented, and collaborative in nature” (p. 2). Weber and Camerer (2003) continued to conclude that, “...subjects overestimate the performance of the merged firm and attribute the decrease in performance to members of the other firm rather than to situational difficulties created by conflicting culture” (p. 400). With the previously discussed differences in culture between public health and the traditional HLS IC organizations, great care will be necessary to guard against or overcome these types of perceptions or outcomes.

The concepts of project management and collaboration also provide an important area of literature for the development and implementation of HSI programs. Doctrinal approaches to project management often require collaboration with stakeholders throughout a product development lifecycle. In other words, collaboration becomes a, “...strategic mode of integration in which two or more organizations cooperate on part(s) or all stages of production, from the initial phase of research to marketing and distribution” (Anderson, 1995, pp. 58–59). By employing basic project management concepts, throughout all phases of the HSI program development lifecycle, improvements and efficiencies in effort and enhanced outcomes can be achieved.

Ultimately, the literature related to these areas of study can be a significant contributor to the development of an integrated HSI-HLS IC program. Those public health jurisdictions currently working on establishing a HIS program would be well

served to incorporate this knowledge into their planning activities. Those HSI programs already in the implementation stage should heed the literatures warnings regarding the difficulties of merging organizations and cultures, and seek to ensure their written plans and final HSI programmatic structure and processes account for these challenges.

F. PLANNING AND ORGANIZATIONAL PERFORMANCE

The first area of the literature related to planning is filled with research to describe the planning process, its benefits and various impacts. Very little time is spent researching the necessity of developing written plans. The literature largely accepts the importance of moving through the process of creating the written plan. In a study related to establishing the relationship of strategic planning to firm performance for instance, Miller and Cardinal (1994) found, “Consistent with expectations, we found strategic planning to positively affect firm performance” (p. 1662). There Literature exists that describes situations in which the actual written document lacks the importance of the planning process itself, but it does not go so far as to conclude planning is not necessary. In this vein, the oft cited adage from former President and General Dwight D. Eisenhower stated, “Plans are nothing, planning is everything” seems appropriate. While the written plan may add value in creating a product that can help foster institutional knowledge, the act of going through the process of creating a written plan can be regarded as a critical first step in ensuring an HSI Program is well thought out.

This process includes ensuring the HSI program has addressed key aspects of an effective intelligence program and developed the necessary framework on which to base future decisions. Rollins and Connors (2007) state, “Although often viewed as laborious and unexciting, theoretical foundations and administrative functions are crucial to the future success of a fusion center” (p. 4). This same statement may be applied to a public health program trying to implement an HSI capability. Without the foundational and administrative effort that goes into developing a written planning document, HSI programs are likely to overlook critical factors, such as the need for an inter-organizational Memorandum of Understanding (MOU), fail to consider important aspects

of the program like the necessity of being able to demonstrate successes and achievements, and miss opportunities to mitigate problems that might arise during implementation, including HSI information safeguards and oversight.

The need to ensure that a given organization can demonstrate both positive outcomes and quality assurance of its products is also well represented in the literature. In the intelligence community, the customer consuming the intelligence often decides if the intelligence product was effective or not. Lowenthal (2009) states four key metrics exist to measure the effectiveness of intelligence: timeliness, the degree to which the product is tailored to the consumer, how digestible the product was for the customer, and how clearly the intelligence described both what is known, but also what is unknown. Thus, the customer becomes the ultimate measure of how effective intelligence is and what becomes the focus of the intelligence collection and analysis process. Krizan (1999) supports this concept by stating, “Thus, customer feedback, production planning and tasking, as well as any internal product evaluation, all become part of the process of defining needs and creating intelligence requirements” (p. 19). An effective HSI program must account for a process that solicits and receives customer feedback. Developing consistent metrics related to customer perceptions of the intelligence products can be difficult and sometimes time consuming, but should be important considerations when attempting to establish a concerted HSI capability.

G. PRIVACY AND INFORMATION SECURITY LITERATURE

The need to ensure privacy protections for individuals, as well as secure the data that HSI programs use for intelligence purposes, is the final area of the literature explored for this thesis. The literature in this area comes from a variety of sources including government reports, academic research on data protection and reports by organizations, such as the American Civil Liberties Union.

The accessing of data, which is entrusted to public health jurisdictions for the homeland security mission, presents a myriad of challenges. The data is often provided to public health for purposes other than the support of intelligence analysis capabilities related to homeland security.

Public health jurisdictions often work with a population that traditionally has distrusted the government. Butler (2002) states, “The presence of law enforcement officers has been thought to compromise the collection of sensitive medical information (e.g., illegal drug use). Indeed, some degree of separation from law enforcement may be advantageous for obtaining complete and accurate data during public health investigations.” By providing law enforcement and other partners access to sensitive public health information, HSI programs risk harming the traditional public health mission. Accounting for and implementing effective privacy safeguards in a written plan can help to demonstrate to the public that the necessary precautions have been taken to ensure their privacy, and also, provide HSIAs with a framework within which they can both provide and protect information to HLS IC partners.

The literature also discusses concerns for the security of the data itself. The need to account for both physical protection of the information, and to protect it from electronic methods of intrusion, is a prominent area of the literature. The program manager for the information sharing environment notes, “The unauthorized disclosure of classified information as a result of the Wikileaks breach illustrates some fundamental failures to protect sensitive information properly and challenges our government to renew its focus on enhancing means for the secure and the effective use of information” (Kshemendra, 2011, p. iv). The literature on this topic almost universally advocates for a mixture of physical and electronic protections of information.

Failing to account for these needs in the HSI’s programmatic development could lead to serious information security and privacy concerns that would have deleterious effects on the ability of public health to evolve and grow its HSI programs and capabilities.

H. CONCLUSIONS

The literature supports that public health has both the potential and impetus to continue its development related to HSI. This development, the literature suggests, should come in several areas.

- Overall formalization and maturation of the HSI capability
- Emphasis on written plans for HSI
- Continued development of analysis capabilities and analysts
- Need to account for privacy and information security

In addition to these areas of development, the literature described how an HSI capability would enhance the HLS mission, benefit public health's HLS role, as well as its traditional capabilities and, finally, how areas of research, such as the organizational and managerial sciences, can inform this development.

III. METHODOLOGY

A. BACKGROUND

Sixty-two jurisdictions currently receive federal funds under the Public Health Emergency Preparedness (PHEP) Cooperative Agreement. The PHEP Cooperative Agreement, "...is a critical source of funding, guidance, and technical assistance for state, territorial, and local public health departments. Preparedness activities funded by the PHEP cooperative agreement are targeted specifically for the development of emergency-ready public health departments that are flexible and adaptable" (CDC—PHPR—Funding, Guidance, and Technical Assistance to States, Localities, and Territories, n.d.). The 62 PHEP cooperative agreement recipients to whom funds were sent include all 50 states, four major metropolitan areas (Chicago, Los Angeles County, New York City, and Washington, DC) and eight U.S. territories and freely associated states (American Samoa, Guam, U.S. Virgin Islands, Northern Mariana Islands, Puerto Rico, Federated States of Micronesia, Republic of the Marshall Islands, and Republic of Palau) (CDC—PHPR—Funding, Guidance, and Technical Assistance to States, Localities, and Territories, n.d.). The 62 jurisdictions cover the 10 department of health and human services defined regions.

B. STUDY DESIGN

This research conducts a comparative analysis of the literature regarding intelligence program smart practices in comparison to public health agencies written plans for these activities. The author developed an electronic Planning Assessment Tool (PLAT), specifically for this research, using Georgia's online State Electronic Notifiable Disease Surveillance System (SENDSS). An Internet hyperlink to the PLAT was sent to the directors of the Public Health Preparedness programs awarded PHEP Cooperative Agreement funds in 2011 via electronic mail. Using an Internet interface, the PLAT responses were de-identified upon submission. The SENDSS platform includes tools to

provide data aggregation, such as response frequencies. Although some quantitative data analysis is possible with this platform, the PLAT is primarily designed to collect qualitative data.

C. SAMPLE SIZE

Twenty-five of the 62 contacted jurisdictions completed the PLAT, or roughly, 40% of the contacted jurisdictions. Each of the 10 DHHS Regions was represented by a returned PLAT.

D. PLAT DESIGN

The PLAT assessed 27 total metrics related to the information contained in a jurisdiction's written plan for its health security intelligence program. The PLAT was designed to assess the health security intelligence programs' organization and structure as defined by the existence of a plan. One jurisdiction provided feedback via electronic mail indicating that although no written plan existed, the jurisdiction did have a health security intelligence program and provided responses to several of the questions. This information was included in the analysis. The PLAT will provide insight into how SLTT Public Health agencies and organizations are currently implementing their HSI programs and offer opportunities to provide recommendations for improvement.

E. DATA ANALYSIS

Information was analyzed through comparison of the PLAT information regarding HSI activities and the literature regarding traditional intelligence community data collection and analysis activities that was accomplished in two steps. The first step was to conduct a jurisdictional assessment of written plans, policies and procedures related to HSI. Utilizing a jurisdictional plan assessment tool, the PLAT, SLTT jurisdictions were able to input plan specific data. The second component of the policy review included a comparison of the acquired planning assessment data with the existing literature describing effective intelligence programs. Synergies in the two processes allowed for the analysis of the current HSI programs against existing IC best practices.

1. Results

The questions in the PLAT were designed to elicit a response that would frame the current state of public health programmatic activity related to intelligence inputs for the HLS IC. No current national requirement or programmatic guidance document related to public health department's intelligence activities exists. Although some statistically relevant information is available within the data set, the data was designed, and largely analyzed, through the qualitative lens.

a. PLAT Questions 1, 2, and 3

The first three questions in the PLAT were designed to assess the jurisdictions size, general location (as defined by DHHS region) and the development of a written plan.

Question one asked, "Does the jurisdiction have a plan in place for a Health Security Intelligence (HSI) Program?" In total, 25 jurisdictions responded to the PLAT, with 19 indicating they did not have a formal, written plan for an HSI Program, while six jurisdictions did indicate they had developed a written plan for an HSI Program. Of the 19 jurisdictions that indicated they did not have a formal, written plan, five provided follow up responses to indicate they did have a HSI program, although they lacked a written plan. When information is included from these jurisdictions, it will be noted as such.

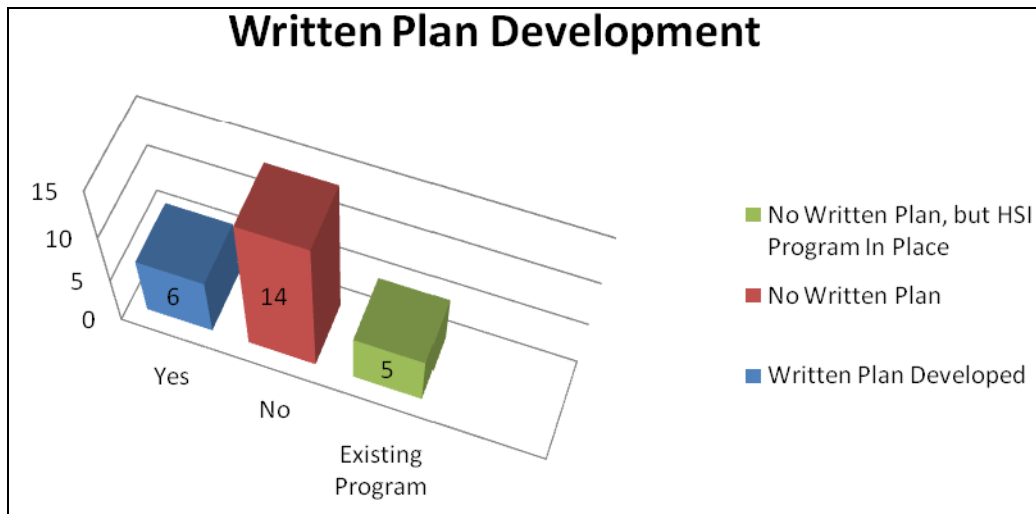


Figure 2. Written Plan Developed

Of those that indicated a plan was written, two were local jurisdictions, three were at the state level, and one jurisdiction indicating it had developed a plan that included both state and local jurisdictions. Of those that indicated no written plan existed, but an established HSI Program had been developed, all were at the state level. Questions two and three sought to help assess whether jurisdictional level or geographic location played a factor in the development of a HSI capability. Of the jurisdictions that completed the PLAT, whether indicating they had a written plan or not, 16 indicated they were state-based public health programs with three indicating they were local public health programs. The remaining six programs failed to indicate what type of jurisdiction to which they belonged. As the PHEP funded jurisdictions only included four local jurisdictions, it was expected that the remaining five jurisdictions were predominantly state level agencies, although the eight funded territories and freely associated states were also included in the PLAT assessment.

b. PLAT Questions 4, 5, 6, 7, 8, 9 and 10

Questions 4 through 10 sought to characterize the ways in which the health security intelligence analyst capability was being developed.

Question 4: Secret Level or Above Clearances by Jurisdiction	
Jurisdictions with a written plan:	3 of 6
Jurisdictions without a written plan, but indicating an HSI capability exists:	1 of 5

Table 2. Clearances

Question 4 asked, “Does the jurisdiction’s plan indicate that all of the HSI Analysts have at least a secret level clearance?” Responses indicated that of the six jurisdictions with a written plan, three had analysts with at least a secret level clearance. Of those five jurisdictions with no written plan, but an existing HSI program, one indicated its analysts had a secret clearance.

Question 5: Number of Personnel Designated as Health Security Intelligence Analysts			
Written Plan?	1–5 HSIA’s	5-10 HSIA’s	More than 10 HSIA’s
Yes	2	1	2
No, but a HSI Program	1	0	0

Table 3. Health Security Intelligence Analysts

Questions 5 asks, “According to the jurisdiction’s plan, how many personnel are designated as HSI Analysts.” Of the six jurisdictions with a written plan, two identified a single analyst, one jurisdiction acknowledged six analyst positions and two jurisdictions reported more than 10 analyst positions. Question 7 provides additional detail about what types of personnel. Of those jurisdictions that did not have a written plan, only one identified a dedicated HSI analyst.

Question 6: Jurisdictions with Dedicated HSI Analysts:	
Jurisdiction Has a Written Plan:	3 of 6
Jurisdiction Does Not Have a Written Plan, but Identified a HSI Capability:	1 of 5

Table 4. Dedicated HSIAs

Question 6 asks the question, “Does the jurisdiction’s plan indicate the need for dedicated, full time, HSI Analysts?” Of the six jurisdictions with a written plan, three indicated that the HSI analyst position was a dedicated, full time position. One jurisdiction without a written plan indicated it had identified a dedicated position to be a full time analyst.

Question 7: Analysts are Full Time or Part Time		
Written Plan?	HSIA’s Are Part Time:	HSIA’s Are Full Time:
Jurisdiction Has a Written Plan:	1	2
Jurisdiction Does Not Have a Written Plan, but Identified a HSI Capability:	1	1

Table 5. HSIA Designations

Question 7 asked, “What percentage of time does the plan indicate HSI Analysts are assigned to the HSI Program?” This question was intended as a follow on question to Question 6. The intent of the question was to differentiate between a position dedicated to an HSI analyst who worked a full-time workweek, and one that although dedicated as an HSI analyst, did not work a full 40-hour workweek. Of the three jurisdictions that answered yes to Question 6, two indicated that the position was a full time position with one of the jurisdictions indicating it was a part time position and two responding that the plan did not specify. Of those jurisdictions with a HSI program, but no written plan, that also responded affirmatively to Question 5, one indicated the position was a full-time position.

Question 8: HSIA Disciplines Related to Plan Development

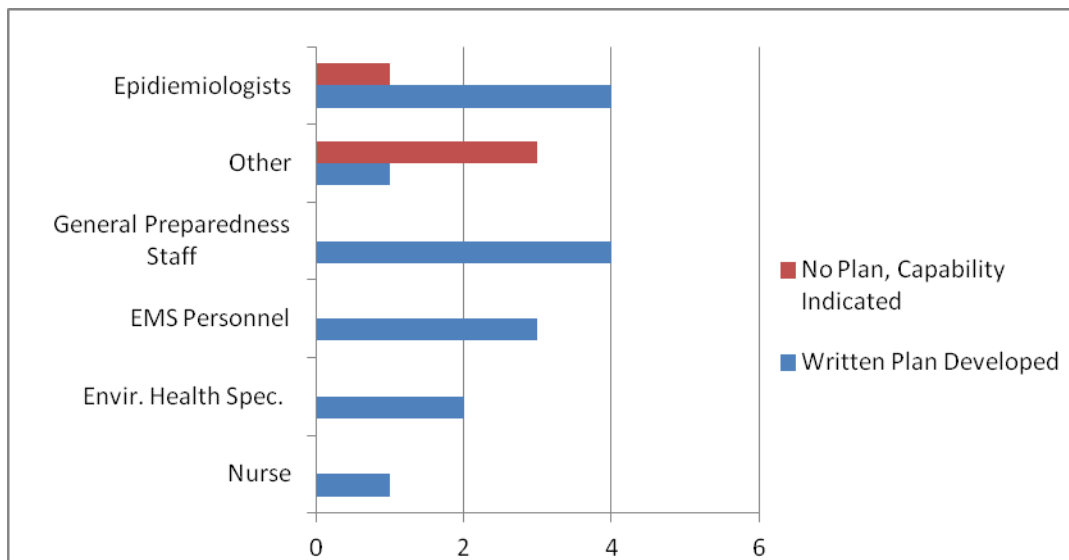


Figure 3. HSIA Disciplines

Question 8 asks, “What type of personnel are assigned as analysts in your PH Intel Program according to the jurisdiction's plan?” Public health programs have a diverse mix of existing career fields that comprise the public health workforce to select from when seeking to fill analyst positions. Included in those career fields are physicians, nurses, epidemiologists, and environmental health specialists. All of these career fields involve the collection and analysis of data, whether involving direct patient care or the larger trends associated with the science of epidemiology. Additionally, PHEP grant funding has created a new set of general emergency preparedness staff personnel, many of whom have backgrounds in the military, law enforcement and emergency management. The PLAT found that of those jurisdictions that indicated a written plan was developed, five indicated that epidemiologists were assigned as HSI analysts, with four indicating general emergency preparedness staff members had been assigned to the analyst role. Other career fields indicated as being assigned as analysts included within a written plan were, environmental health specialists, nurses and Emergency Medical Services (EMS) staff.

Question 9, designed as a follow on question to Question 8 asked, “If other was selected, please indicate the working discipline of the HSI Analyst (e.g., Emergency Management, Law Enforcement, etc).” Among the positions identified as being utilized as analysts were law enforcement, legal staff, psychiatry personnel and toxicologists.

Question 10: Personnel Hired as Analysts	
Jurisdiction Has a Written Plan:	2
Jurisdiction Does Not Have a Written Plan, but Identified a HSI Capability:	1

Table 6. Hiring of HSIA's

Question 10 asks, “Does the jurisdiction's plan indicate if HSIA’s are designated as such upon hiring?” Of the six jurisdictions with a written plan, only two indicated personnel were hired specifically to staff a HSIA position. Of the five jurisdictions without a written plan, only one indicated it hired personnel specifically to staff a HSIA position.

c. PLAT Questions 11, 14, 15, and 16

Questions 11, 14, 15, and 16 focus on the relationship that HSI programs have with their jurisdiction’s fusion center. The questions were designed to assess whether or not the level of interaction the jurisdiction had with their fusion center influenced HSI program development.

Question 10: MOU With Fusion Center	
Jurisdiction Has a Written Plan:	4 of 6
Jurisdiction Does Not Have a Written Plan, but Identified a HSI Capability:	1 of 5

Table 7. Fusion Center MOU

Question 11 asks, “Does the jurisdiction's plan indicate the need for a written MOU with the State or Local Fusion Center?” Of the six jurisdictions with a written plan, four indicated an MOU was identified in the plan. Of those jurisdictions without a written plan, but indicating a HSI program existed, only one indicated a MOU with the fusion center was an identified part of the program.

Question 14: HSIA's Assigned to Fusion Center	
Jurisdiction Has a Written Plan:	3 of 6
Jurisdiction Does Not Have a Written Plan, but Identified a HSI Capability:	1 of 5

Table 8. Fusion Center Assignment

Question 14 asks, “Does the jurisdiction's plan indicate Health Security Intelligence Analysts are assigned to the fusion center?” Of the six jurisdictions that indicated a written plan was developed, three indicated that the HSI analyst is assigned to the fusion center. Of the jurisdictions without a written plan but indicating a HSI program existed, only one indicated an analyst was assigned to the fusion center.

Question 15: Fusion Center is HSIA Primary Work Location	
Jurisdiction Has a Written Plan:	2 of 6
Jurisdiction Does Not Have a Written Plan, but Identified a HSI Capability:	1 of 6

Table 9. HSIA Work Location

Question 15 is a follow on question to Question 14 and asks, “Does the jurisdiction's plan indicate the Fusion Center is the primary work location for HSI Analysts?” Of the six jurisdictions that indicated a written plan had been developed, only two indicated that the HSIA was assigned full time to the fusion center. Of the five jurisdictions without a written plan, but indicating a HSI program existed, only one indicated that the HSIA was assigned to the fusion center.

Question 16: HSIA's at Fusion Center Full/Part Time	
Jurisdiction Has a Written Plan:	Full Time: 2
	Part Time: 0
Jurisdiction Does Not Have a Written Plan, but Identified a HSI Capability:	Full Time: 0
	Part Time: 1

Table 10. Percentage of Time

Question 16 was an extension of Question 15 and asked, “If the jurisdiction's plan indicates that HSI Analysts are assigned to the Fusion Center, what percentage of time are HSI Analysts assigned to the center, according to the plan?” Of the six jurisdictions indicating a written plan existed, only two indicated that the plan specified the amount of time the HSIA was assigned to the fusion center and both were assigned full time. Of those five jurisdictions indicating a HSI program existed, but did not have a written plan, only one indicated that the HSIA was assigned to the fusion center for a fixed period of time and that jurisdiction indicated the HSIA was assigned only part time.

d. PLAT Questions 12 and 13

PLAT Questions 12 and 13 focused on the level and types of training HSIA's are provided in the HSI program.

Question 12: HSIA's Attend Formal Training	
Jurisdiction Has a Written Plan:	2 of 6
Jurisdiction Does Not Have a Written Plan, but Identified a HSI Capability:	1 of 5

Table 11. HSIA Training

Question 12 asks, “Does the jurisdiction's plan indicate HSI Analysts should attend formal Intelligence Analysis Training?” Of the six jurisdictions that had a written plan, two indicated the plan identified the need for HSIA's to attend training. Of those jurisdictions without a written plan, but that indicated a HSI program was in place, one identified consideration of the need for HSIA's to have formal training.

Question 13: Training Curriculum Identified	
Jurisdiction Has a Written Plan:	FLETC
	IFCAT
	Locally Developed Training
Jurisdiction Does Not Have a Written Plan, but Identified a HSI Capability:	Locally Developed Training

Table 12. HSIA Training Curricula

Question 13 was a follow on question to Question 12 and asked, “List any formal training courses or programs that the jurisdiction's plan indicates Health Security Intelligence Analysts attend.” No formal courses were identified by the name of the course; instead, two formal training programs were identified by name, the program at the Federal Law Enforcement Training Center or FLETC, which, “...serves as an interagency law enforcement training organization for 90 Federal agencies. The FLETC also provides services to state, local, tribal, and international law enforcement agencies” (U.S. Department of Homeland Security, n.d.a). The other program identified was the Intermediate Fusion Center Analyst Training Program or, IFCAT, which is a, “...125-hour intermediate analyst training program was developed following a nationwide fusion center analyst job task analysis and meetings with subject-matter experts from throughout the country” (Fusion Center Training, n.d.). One additional jurisdiction responded that locally sourced training opportunities were utilized, but did not provide further clarity. Finally, two jurisdictions provided general responses referencing training being provided, but added no additional clarity.

e. PLAT Questions 17, 18 and 19

Questions 17 through 19 sought to determine what public health data sources were being leveraged by HSI programs as inputs into the intelligence process. Additionally, Questions 18 and 19 sought to determine previously unidentified additional sources of public health data in the literature that HSI programs were assessing as potential sources of intelligence.

Question 17 asked, “How many sources of public health data does the plan indicate are included in the Health Security Intelligence Analysis Process?” Question 17 only elicited one response by a jurisdiction with a plan. That jurisdiction did indicate its plan identified at least 10 sources of public health data for use in its HSI program. Every other jurisdiction with either a written plan or a self identified HSI program declined to indicate how many sources of data were identified for use in their HSI program.

Question 18 asked, “What sources of public health data does the jurisdiction's plan indicate are included in your Health Security Intelligence Analysis Process?” Question 18 had a much greater response rate than Question 17 with all six of the jurisdictions with a written plan responding and two of the five public health jurisdictions without a written plan, but a self identified HSI program adding a response. Additionally, Question 18 helped to provide greater clarity related to the number of data sources being used by the jurisdictions, with at least five of the six jurisdictions with a written plan using five or more data sources, and two of the five jurisdictions without a written plan but indicating a HSI capability using more than five data sources.

Question 18: HSIA Data Sources Currently Utilized

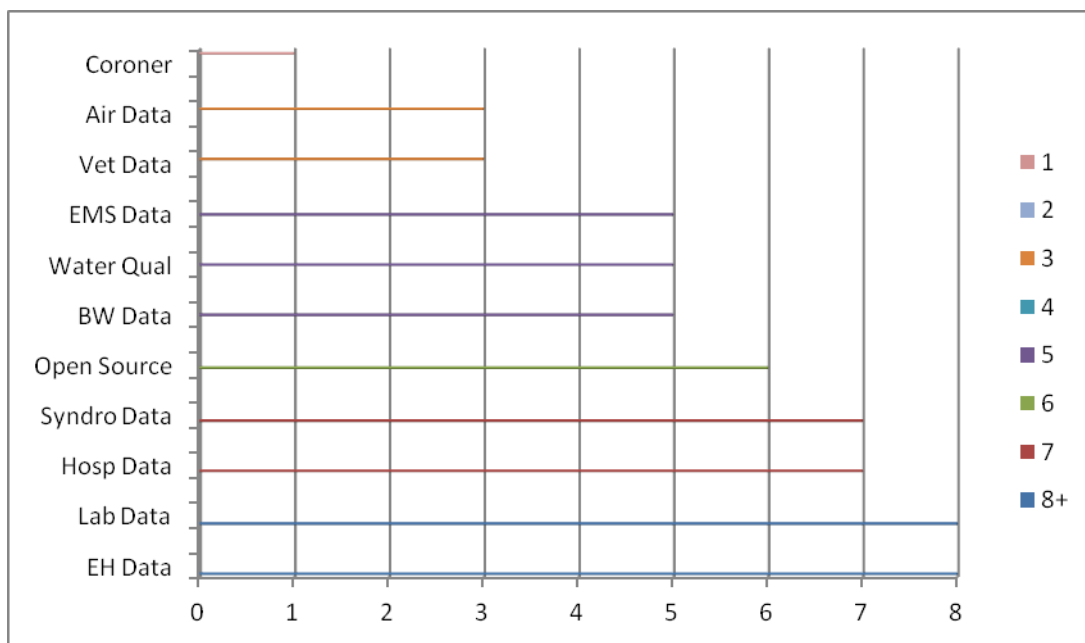


Figure 4. HSIA Data Sources

Question 19 was designed to gather additional information about sources of data outside the options from Question 18. None of the surveyed jurisdictions identified any additional sources of data as being incorporated either into their plans or as part of a self identified HSI programs. It is doubtful to this author that the PLAT captured every possible source of HSI data currently being used for HSI by the responding programs. Unfortunately, the limits of the PLAT confound the ability to collect additional data from specific organizations.

f. PLAT Questions 20, 21 and 22

Questions 20, 21 and 22 sought to determine how the HSI, once processed into a product for dissemination, was vetted before release.

Question 20: Vetting Process of HSIA Products	
Jurisdiction Has a Written Plan:	4 of 6
Jurisdiction Does Not Have a Written Plan, but Identified a HSI Capability:	1 of 5

Table 13. Vetting Process

Question 20 asked, “Does the jurisdiction's plan indicate a clearance process for vetting of intelligence products before their final release?” Four of the six jurisdictions indicating a written plan existed stated an information clearance/vetting process was identified in the plan. Of those jurisdictions without a written plan, but indicating a HSI program existed, one indicated a clearance/vetting process existed.

Question 21 was designed as a follow on question to Question 20 and asked, “If yes, who (list position title) is responsible for final approval of the Health Security Intelligence product according to the jurisdiction's plan?” Of the six jurisdictions with an identified plan, four of the six indicated a specific position was identified in the plan to provide for the clearance/vetting of intelligence products before release. Only two of the five jurisdictions without a written plan, but indicating a HSI capability, identified specific positions with this responsibility. Ensuring a position is identified in a written plan can help ensure consistency of process regardless of personnel change.

Question 22: Oversight Process for HSI Program	
Jurisdiction Has a Written Plan:	4 of 6
Jurisdiction Does Not Have a Written Plan, but Identified a HSI Capability:	0 of 5

Table 14. Oversight Process

Questions 22 asks, “Does the jurisdictions plan indicate a formal oversight capability exists specifically for the HSI Program?” Of the six jurisdictions indicating a written plan exists, four indicated an oversight process was identified in the plan. Of those jurisdictions without a written plan, but indicating a HSI program existed, none indicated a formal oversight process was in place.

g. PLAT Question 23 and 25

Question 23 focused on safeguards for information security and counterintelligence being incorporated into the written plan. Question 25, meanwhile, considered the unique (to the HLS IC) needs of HSI programs to safeguard protected and privileged health information as defined by the Health Insurance Portability and Protection Act of 1996 (commonly referred to as HIPPA).

Question 23: Information Security and Counterintelligence	
Jurisdiction Has a Written Plan:	4 of 6
Jurisdiction Does Not Have a Written Plan, but Identified a HSI Capability:	1 of 5

Table 15. Oversight and Security Considerations

Question 23 asked, “Does the jurisdiction's plan include internal safeguards for information security and counterintelligence?” Of the six jurisdictions that indicated a written plan, four indicated the plan accounted for ensuring information security and counterintelligence. Of the five jurisdictions without a written plan, but identified a HSI program existed, only one indicated the program accounted for information security and counterespionage.

Question 25: HIPAA Considerations	
Jurisdiction Has a Written Plan:	6 of 6
Jurisdiction Does Not Have a Written Plan, but Identified a HSI Capability:	2 of 5

Table 16. HIPAA

Questions 25 asked, “Does the jurisdiction's plan indicate a capability exists to maintain compliance with the Health Insurance Portability and Accountability Act of 1996?” Of the six jurisdictions that indicated a written plan was developed, all six indicated that the plan accounted for the need to maintain HIPAA compliance. Of the five jurisdictions without a written plan but indicated a HSI program existed, only two indicated the program had a capability built in to maintain HIPAA compliance. It should be noted that the while data streams being utilized in the HSI program have strong implications for the need to maintain HIPAA compliance, if no identifiable health information is utilized, HIPAA would be of less concern.

h. PLAT Question 24

PLAT Question 24 focused on the need to be able to process and distribute unclassified versions of HSI products as necessary.

Question 24: Distribution of Unclassified Products	
Jurisdiction Has a Written Plan:	4 of 6
Jurisdiction Does Not Have a Written Plan, but Identified a HSI Capability:	1 of 5

Table 17. Distributing Unclassified Products

Question 24 asked, “Does the jurisdiction's plan indicate a process is in place to distribute unclassified versions of the HSI Products?” Of the six jurisdictions with a written plan, four had identified a process for distributing unclassified versions of their HSI products, of those jurisdictions without a written plan, but which had identified a HSI program existed, only one indicated a process was in place to distribute unclassified versions of its HSI products.

i. PLAT Questions 26 and 27

Questions 26 and 27 focused on the issue of funding the HSI capability at the state and local level.

Question 26: Funding the HSI Program	
Jurisdiction Has a Written Plan:	2 of 6
Jurisdiction Does Not Have a Written Plan, but Identified a HSI Capability:	1 of 5

Table 18. HSI Funding

Question 26 asked, “Does the jurisdiction's plan indicate a formal funding stream exists to support the HSI program?” Of the six jurisdictions that indicated a written plan existed, only two indicated a formal funding source was identified in the plan. Of the five jurisdictions that did not have a written plan, but indicated a HSI program was in place, only one indicated an identified funding source existed.

Question 27: Funding Source Identified	
Status of HIS Program:	Funding Source:
Jurisdiction Has a Written Plan:	PHEP
	PHER
Jurisdiction Does Not Have a Written Plan, but Identified a HSI Capability:	PHEP

Table 19. Funding Sources

Question 27 was a follow up question to Question 26, it asked, “If the jurisdiction's plan indicated a formal funding stream was associated with this activity, please indicate what funding stream was outlined in the plan.” Of the two jurisdictions with a written plan and that indicated a formal funding source had been identified, one indicated the funding came from the PHEP grant described earlier in this thesis. The second indicated the funding came from the Public Health Emergency Response (PHER) grant, a program that had now been ended. The one jurisdiction without a written plan that identified a formal funding stream also cited the PHEP grant.

2. Summary of Analysis

The analysis indicates that jurisdictions with a written plan were more likely to have considered more of the areas of a mature HSI program, as indicated by the literature, than those without a plan. The analysis showed jurisdictions with plans were more likely to do the following.

- Have a greater number of trained HSI analysts employed full time
- Possess a greater number of personnel with at least secret level clearances
- Have accounted for information security and privacy concerns, as well as ensuring their activities were compliant with HIPAA
- Engage a broader cross section of public health personnel to contribute to the HSI production process
- Utilize a greater number of data sources as intelligence inputs

The analysis of the PLAT also indicates that numerous opportunities for additional research related to how public health jurisdictions are responding to the HSI mission exist. Specifically, an attempt to gather a larger number of the jurisdictions to achieve a greater statistical confidence interval would allow for statistical and quantitative analysis of HSI activities across the SLTT landscape. Additional jurisdictions contributing to the research would substantially improve the clarity related to HSI programmatic activities across the country. That being said, the results are likely qualitatively representative enough to draw some initial conclusions and formulate recommendations. Chapter IV includes the findings related to the analysis of the PLAT.

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IV. FINDINGS

A. PLAT QUESTIONS 1, 2, AND 3

1. Findings Related to Planning

The data from the PLAT suggest that the majority of public health programs at all SLTT levels have yet to develop written plans to address a HSI capability. The PLAT responses seem to suggest that those jurisdictions with written plans tended to address more of the areas the literature identified as critical to the success of an intelligence program. A written plan is often the precursor to a well-developed program. Although formalization of process is only one indicator of maturity for a program, planning has been demonstrated to be important to positive operational performance. Miller and Cardinal (1994) found, "...planning affects performance equally in large and small and capital-intensive and labor-intensive firms. Consistent with our original arguments, it appears that small firms and labor-intensive firms can benefit from the adaptation aspect of strategic planning" (p. 1662). The low number of jurisdictions indicating a written plan had been developed demonstrates the lack of consistent programmatic development for a HSI capability across the nation. As the literature review indicated, a distinct absence of national level guidance or doctrine for the development of a national capability exists. The one guidance document identified during the literature review, "Health Security: Public Health and Medical Integration for Fusion Centers," focuses on ways in which fusion centers could incorporate a public health component into their environment, not on how public health programs should build out this capability either strategically or programmatically (Global Justice Information Sharing Initiative, 2011). It should be noted that this is not a weakness in the DOJ document, simply a recognition of the scope of the document.

A variety of factors may contribute to the variation in the level of programmatic development and maturation across the country. As the literature indicates the need for a HSI capability has been recognized predominantly at the federal level, involvement of

federal regional emergency coordinators from the DHHS or the DHS (they share the same established regions), may play a factor in how much emphasis is placed on the formalization and maturation of the HSI capability in that region.

Local factors, such as interorganizational relationships, whether positive or negative, also likely play a role in the differentiation in capability amongst the jurisdictions. Additionally, involvement of public health in state and local fusion centers (explored later in the analysis) may also contribute to the variance.

2. Findings Related to Geography and Jurisdiction

Geographically, no significant variation in the development of HSI capabilities across the nation seems to exist. It is interesting to note that three of the regions located on the East Coast have developed plans, but the limitations of the data set make it unclear as to what this may indicate, if anything. Additionally, Region VIII was the only region to report no established HSI Program existed, whether indicated by a plan or not.

PLAT Responses Geographic Breakdown

HHS Region	Number of Responses	Percentage	Number of Plans by Region
I	4	16%	1
II	1	4%	0*
III	3	12%	1
IV	4	16%	1*
V	3	12%	0*
VI	2	8%	2
VII	1	4%	0*
VIII	2	8%	0
IX	1	4%	1
X	1	4%	0*
Not Indicated	3	12%	0

*Indicates one or more jurisdictions indicated a HSI Program existed, while not having a written plan developed.

Table 20. Geographic Distribution of Developed Plans

B. PLAT QUESTIONS 4, 5, 6, 7, 8, 9, AND 10

1. Findings Related to Security Clearances

The analysis of these questions indicated that a lack of security clearances among those individuals tasked with conducting health security intelligence analysis that may be indicative of a lack of clearances in the public health community in general. It is important to note that jurisdictions with written plans were more likely to have HSIAs with secret or above security clearances.

As the classification of information has seen a dramatic rise in the last decade, failure to ensure HSI analysts have clearances of at least the secret designation will hinder their ability to act as a full partner in the intelligence cycle. In the face of numerous reports calling for the imposition of limits on the classification of documents, the number of classifications continued to rise in the middle part of the decade. In 2001, approximately 8 million classification actions were taken to protect intelligence, which had risen to 14 million by 2005, despite the 9/11 Commission calling for a decrease in the number of classifications just three years earlier (Committee on Homeland Security, 2009, p. 1). While the number of classifications rose, the number of declassifications dropped with the Congressional Research Service finding that the, "...quantity of declassified pages dropped from 100 million in 2001 to 29 million in 2005" (Relyea, 2007, Summary). As recently as 2008, a report from the office of the Director of National Intelligence (2008) found that the myriad classification guidance documents developed by the various agencies, the limited guidance on when designating something as unclassified is acceptable and conflicting direction from higher authorities, leads the personnel charged with designating information as classified or not, simply to default to the most stringent form of protection. Since 2008, numerous Presidential Executive Orders, guidance documents from the Director of National Intelligence and reports from Congress have indicated that efforts to reform the classification process have provided beneficial. However, considering much work is still to be done in ensuring information is

accessible in an unclassified format, it is problematic that the analysis of the PLAT indicates that most of the responding jurisdictions did not have an HSIA with at least a secret level clearance.

2. Findings Related to the Numbers, Types and Employment Status of HSIAs

Jurisdictions with written plans indicated a greater number of personnel designated as HSIAs within their programs, as well as a greater diversity of public health specializations filling analyst roles. The existing public health workforce offers a diverse mix of existing career fields to select from when seeking to fill analyst positions. Those career fields include physicians, nurses, epidemiologists, environmental health specialists and a relatively new cadre of personnel focused specifically on the emergency preparedness mission. Additionally, many public health departments include the EMS community or work closely with this community. All of these career fields involve collection and analysis of data, whether involving direct patient care or searching for larger public health trends that may indicate threats to the public's health. A 2008 report assessing the identification of intelligence analysts within the law enforcement community indicated that a mix of trained police officers and general dedicated intelligence analysts represented an effective mix of personnel (Davis et al., 2010, p. 67). The PLAT identified six professions most commonly assigned as HSIAs within public health jurisdictions. The following tables provide a general overview of the position responsibilities and describe potential reasons these practitioner types may lend themselves to the HSIA position.

Potential of Existing Public Health and Medical Positions as HSIA's		
Discipline	Position Description	Applicability to HSIA Position
Epidemiologists	Epidemiologists investigate and describe the causes and spread of disease, and develop the means for prevention or control. <i>Applied epidemiologists</i> , who usually work for state health agencies, respond to disease outbreaks, determining their causes and helping to contain them. <i>Research epidemiologists</i> study diseases in laboratories and in the field to determine how to prevent future outbreaks (U.S. Department of Labor, 2010/2011d).	Analytical skills, familiarity with biological threats to public health, generally excellent relationships with the wider healthcare community, high levels of education and training, expertise in working with data, sifting, and creating products to succinctly present information.
Registered Nurse	Registered nurses (RNs), ...treat patients, educate patients and the public about various medical conditions, and provide advice and emotional support to patients' family members. RNs record patients' medical histories and symptoms, help perform diagnostic tests and analyze results, operate medical machinery, administer treatment and medications, and help with patient follow-up and rehabilitation (U.S. Department of Labor, 2010/2011f).	Interpersonal skills, general medical knowledge covers a wide range of topics, ability to work vertically and horizontally in a hierarchy, generally excellent contacts within the broader medical community, familiarity with generating status reports and updates.
Environmental Health Specialists	Environmental scientists and specialists use their knowledge of the natural sciences to protect the environment by identifying problems and finding solutions that minimize hazards to the health of the environment and the population. They analyze measurements or observations of air, food, water, and soil to determine the way to clean and preserve the environment...They also write risk assessments, describing the likely affect of construction and other environmental changes; write technical proposals; and give presentations to managers and regulators (U.S. Department of Labor, 2010/2011c).	Threat assessment skills, considerable expertise in working with data sets, experience developing reports and products, which include both supportable data, as well as critical analysis, often well-developed community contacts.
EMS Providers	EMTs and paramedics assess the nature of the patient's condition, while trying to determine whether the patient has any pre-existing medical conditions. Following protocols and guidelines, they provide emergency care and transport the patient to a medical facility. EMTs and paramedics operate in emergency medical services systems where a physician provides medical direction and oversight (U.S. Department of Labor, 2010/2011b).	Familiarity with high stress environments, contacts within the first response community at the SLTT level, experience writing reports, making educated assessments and deciding on courses of action with limited data, ability to work across disciplines.

Potential of Existing Public Health and Medical Positions as HSIAs		
Discipline	Position Description	Applicability to HSIA Position
Public Health Emergency Preparedness Personnel	The Public Health Preparedness discipline is relatively new but practitioner responsibilities include development of emergency response plans, coordination of emergency preparedness and response operations, development of mitigation strategies related to public health threats spanning the gamut of threats the public may face and development of programs and projects to incorporate threat. Hazard and vulnerability assessments.	Often personnel have previous experience in law enforcement, the military, other public health professions, experience working with threat, hazard and vulnerability data, expertise in creating descriptive products related to possible public health threats, generalist, possibly less subject to cognitive bias developed during training and education for discipline.

Table 21. Possible HSIA Disciplines

Other Disciplines to Consider as HSIAs		
Discipline	Position Description	Applicability to HSIA Position
Laboratorians	Clinical laboratory technologists evaluate test results, develop and modify procedures, and establish and monitor programs, to ensure the accuracy of tests. Some technologists supervise clinical laboratory technicians (U.S. Department of Labor, 2010/2011a)	High levels of education and training, high levels of expertise in specialized areas related to potential public health threats, experience working with data sets and generating reports, familiarity with quality assurance and control principles and practices which may add value in the intelligence creation cycle.
Physicians	Physicians and surgeons diagnose illnesses, prescribe and administer treatment for people suffering from injury or disease. Physicians examine patients, obtain medical histories, and order, perform, and interpret diagnostic tests. They counsel patients on diet, hygiene, and preventive healthcare (U.S. Department of Labor, 2010/2011e).	Diagnostic and treatment skills, profession generally trusted (important for integration into the HLS IC), very high level of education and training, ability to assemble disparate bits of information into reasoned and supported analysis.

Table 22. Other Potential HSIA Disciplines

The PLAT found that very few public health jurisdictions hire personnel specifically to employ them as HSIAs. Question 10 did not garner enough responses to provide any meaningful interpretation. A variety of factors may contribute to the low numbers of personnel formally hired as HSIAs including a lack of funding dedicated to the HSI capability, relative newness of the HSI paradigm and inability to dedicate an position to the HSIA process full time. It is important to assess this area; however, one

indication of a maturing, formalized HSI program could be the employment of analysts vetted during the interview process for their appropriateness to the position. The simple appointment of existing staff members to analyst positions may or may not provide optimal results.

HSIAs hired directly into the position may be more likely to have preexisting training in intelligence analysis, have awareness of issues like cognitive biases, and be better suited to interact with other analysts in a shared environment like a fusion center. Additionally, directly hired HSIAs would need less time to implement the kind of programmatic actions necessary to align traditional public health data collection with the HSI process. This hiring could be beneficial in the more immediate demonstration of the utility of HSI to the core HLS IC mission, engender trust with the traditional HLS IC actors in the jurisdiction, and assist the public health jurisdiction's leadership with establishing greater ties to the existing HLS IC apparatus in place.

The PLAT also found that of those personnel identified as HSIAs, very few operate as analysts full time. The need for dedicated, full time analysts available during the standard 40-hour workweek is well established. In her book, *Out of Bounds, Innovation and Change in Law Enforcement Intelligence Analysis*, Deborah Osborne notes, "analysis is a duty." Osborne asserts it is critical to improve intelligence analysis at the state and local level through the development of a cadre of trained analysts. While her work is focused within the law enforcement community, its relevance to Georgia Department of Public Health (GDPH), or any other state or local agency involved in homeland security is easily understood; analysts are not born, they are made, through training and experience (Osborne, 2006). Additionally, she argues that state and local personnel numbers dwarf the federal government and so there remains a vast, untapped potential to provide intelligence analysis. Additionally, the employment of full-time analysts can help professionalize and mature the HSI programs at the SLTT level.

C. PLAT QUESTIONS 11, 14, 15, AND 16

1. Finding Related to Fusion Center Involvement

The PLAT responses indicate that the involvement of HSI programs with the SLTT fusion centers is relatively robust. In this area as well, jurisdictions with written plans were more likely to have MOUs with fusion centers, identify HSIAs as being assigned to the fusion center, as well as indicating that their HSIAs spent more time at the fusion center.

Fusion centers, “...serve as focal points within the state and local environment for the receipt, analysis, gathering, and sharing of threat-related information between the federal government and state, local, tribal, territorial (SLTT) and private sector partners” (U.S. Department of Homeland Security, n.d.b).

The majority of the PLAT identified HSI programs indicated a formalized MOU existed with their local fusion centers. Establishment of MOUs across organizations helps foster a shared set of expectations, formalizes the activity and outcomes at the leadership level, and engenders support for the operational implementation of the shared mission. Rollins and Connor (2007) state, “It is imperative that the MOA and supporting memorandums of understanding (MOU) explicitly reflect the needs of the center and the responsibilities of the partnering agencies” (p. 10). An MOU with the fusion center can be viewed as yet another step in the formalization and maturation of the HSI program.

The PLAT suggests that the number of HSIAs actually working in the fusion center environment is relatively low. The lack of consistent involvement in the fusion center can be problematic for the development and maturation of the HSI capability. Participation in the fusion center environment can help facilitate not only the inclusion of the public health jurisdiction into the traditional HLS mission, but it can provide a valuable two-way communication conduit for broader organizational awareness of the current threat environment. As the bulk of the HLS IC capability at the state and local level is centered on the fusion center, assigning HSIAs to the fusion center has numerous advantages. These advantages are multifocal, including being beneficial to the HSIA’s

themselves, the span of organizations that participate in the fusion center environment, and the overarching HLS mission. As elucidated in the opening section of this thesis, an as yet untapped ability of HSI to inform other segments of the HLS IC, as well as contribute to the greater HLS IC mission, exists. The HSIA can be a critical cog in the development of inter-organizational trust, especially with public health being a relatively new participant in the HLS IC. Simply ensuring the HSIA develops interpersonal relationships through face-to-face interaction with other IC analysts can provide a myriad of benefits and can ensure continued maturation of the PHI program. The HSIA being physically located at the fusion center, when possible, can provide efficiencies related to the speed of information sharing and improve the overall analysis process by allowing for information fusion to occur during the analysis and product development. The physical colocation of HSIAs in the fusion center can also help to establish the trust necessary to ensure effective information sharing. Tsai (2002) found, "...informal lateral relations become important as they coordinate activities across different organizational units and substantially improve the design of a formal organizations" (p. 181), an area in which small changes could produce big results.

Ensuring the HSIA is assigned to the fusion center for the maximum time practicable for the jurisdiction can dramatically increase the HSIAs' skills and capabilities related to intelligence analysis, create opportunities for innovation on both the public health organizations side, as well as amongst the fusion center partners, and ultimately, create entrenchment for the public health organization in the HLS IC arena.

The majority of public health responses to emergencies and disasters engage multiple sectors of public health organizations. By providing an earlier indication of a possible emergent threat, the organizations may be better positioned to affect an optimal response. Finally, inclusion in the fusion center environment and the intelligence fusion process may provide HLS mission benefit to both organizations, but also more mundane benefits, such as access to the additional grant funding opportunities, the leveraging of joint agency resources and the establishment of new inter-organizational relationships.

The PLAT found that there is likely considerable room for improvement in this area. The benefits of greater HSIA interaction with the fusion center in their jurisdiction can provide relatively cost free value.

D. PLAT QUESTIONS 12 AND 13

1. Findings Related to Analyst Training

The PLAT demonstrated yet another possible area for improvement related to the HSI capability and the training HSIA receive at the SLTT level. With only three of the 11 jurisdictions indicating their HSIA receive formalized training, it would seem that a barrier exists to providing HSIA with training. The literature indicates that analyst training is critical to the skillful analysis of intelligence, the overcoming of internal biases, the production of optimal, relevant intelligence products, and ultimately, the credibility of the analyst amongst peers. As training is so integral to the intelligence process, it is a useful metric in assessing the level of maturity and formalization of HSI programs. The responses to this question seem to indicate that most HSIA are not provided any formalized level of training. This deficiency can indicate a variety of issues exist including, lack of formal training availability, immature HSI programs, lack of guidance at the federal or SLTT levels related to the need for training, a emphasis for on the job training rather than formal training. Unfortunately, the data set limitations do not allow for additional extrapolation.

E. PLAT QUESTIONS 17, 18 AND 19

1. Findings Related to Public Health Data Sources for Intelligence Analysis

The responses to Questions 17–19 show that those jurisdictions indicating a HSI capability are utilizing multiple data streams as inputs into their intelligence analysis process. The analysis also suggests that jurisdictions with a written plan for the HSI program incorporate a greater number of data streams into their HSI capability. The

inclusion of a greater number of data sets can indicate the potential maturity of HSI programs by assessing how extensively they are leveraging the traditional public health data streams in the intelligence process.

F. PLAT QUESTIONS 20, 21 AND 22

1. Findings Related to Program Oversight and Intelligence Quality Assurance

Ensuring strong oversight of products before final release is necessary to avoid issues, such as release of inaccurate reports, intelligence being distributed at inappropriate levels of sensitivity or marking (i.e., Law Enforcement Sensitive vs. For Official Use Only) and intelligence being released prior to official sanction by the authorizing organization. A clear, consistent oversight process can be a marker of programmatic maturity and formalization, providing an excellent metric for programmatic assessment. The analysis related to Question 20 indicates that those jurisdictions with a written plan are more likely to have incorporated a clearance process in their HSI program than those without.

The process by which intelligence is cleared for distribution can be critical. Ensuring information related to sources and methods of intelligence collection are sufficiently obscured, intelligence being distributed is of sufficient quality to be useful to the consumer and that the intelligence product is not distributed before organizational leadership has had a chance to receive a brief on the information, are all-important components of a mature intelligence program. Identifying a position in a written plan can help ensure consistency of process regardless of personnel change. Question 21 demonstrated that of the responding jurisdictions, those with a written plan were more likely to have a position identified to fulfill this role.

The differentiation of clearance/vetting vs. oversight is an important one to note. The process of clearing a product for dissemination is different from oversight in that one is intended to ensure a product meets certain criteria, while the other is designed to ensure the overall program is compliant with any applicable rules, regulations, laws or other

requirements. The analysis of Question 21 noted a marked distinction between those jurisdictions with a written plan versus those without. As indicated in the analysis, the majority of the jurisdictions that indicated a written plan also identified an oversight process while none of the jurisdictions without a written plan responded that they have a formal oversight process.

G. PLAT QUESTIONS 23 AND 25

1. Findings Related to Counter Intelligence Activities and Compliance with the Health Insurance Portability and Accountability Act of 1996

The need for information security and counterintelligence is well defined in the literature. A mature, formalized program must account for how it protects its information, as well as how it ensures it is not receiving information designed purposefully to distract or confuse analysts from potential operations. These counter intelligence considerations should be an integral part of a mature HSI program. The analysis related to the PLAT also showed that those jurisdictions with a written plan were more likely to incorporate counter intelligence considerations into their HSI program, while only one jurisdiction without a written plan indicated it had a counter intelligence process in place.

HIPAA has two components, the HIPAA privacy rule that “provides federal protections for personal health information held by covered entities and gives patients an array of rights with respect to that information. At the same time, the privacy rule is balanced so that it permits the disclosure of personal health information needed for patient care and other important purposes...” and the security rule that “...specifies a series of administrative, physical, and technical safeguards for covered entities to use to assure the confidentiality, integrity, and availability of electronic protected health information” (U.S. Department of Health & Human Services, n.d.). The responsibility of a HSI program related to HIPAA should be a critical consideration for HSI programs that participate in the HLS IC. As the need to account for HIPAA predates the development of the HSI paradigm, it would be expected that most programs had accounted for HIPAA compliance in their HSI program. Still, each of the jurisdictions with a written plan

indicated they had accounted for HIPAA compliance, while only two of the jurisdictions without a written plan indicated HIPAA compliance was part of their HSI program.

H. PLAT QUESTION 24

1. Findings Related to Distribution of Unclassified Materials and Information

HSI products would ostensibly need to be distributed to a variety of partner agencies and personnel, which may or may not have access to security clearances. The need to be able to create less than classified versions of HSI products should be a prime consideration for any HSI program. It should be noted that the process for classifying information could only occur by select agents at the federal level. Similarly, de-classifying information must also occur at the federal level. Still, it is important for HSI programs at the SLTT level to have a developed capability to create and distribute unclassified HSI Products. Of the responding jurisdictions, those with a written plan were more likely to indicate a capability to produce unclassified versions of intelligence products than those without written plans.

I. PLAT QUESTIONS 26 AND 27

1. Findings Related to Funding of HSI Programs and Capabilities

No specific grant funding is currently available for the development of a HSI program at the state and local level. In the current economic climate, especially within the public health realm, how HSI programs are currently funding their activities can shed insight into the sustainability of existing programs, as well as demonstrate the need for dedicated funding sources to ensure the longevity of the programs. Additionally, identifying funding sources may help other jurisdictions begin to build their own HSI programs. Only three respondents total indicated any identified source of funding for a HSI program that would suggest that funding represents a significant barrier to the establishment of this capability at the SLTT level. The lack of funding is symptomatic of a larger issue in public health. Trust for America's Health, or TFAH, is a non-profit

organization that prepares an annual report on the state of public health preparedness across the nation. In their 2011 preparedness report, TFAH found, "...Federal funds for state and local preparedness declined by 38 percent from fiscal year (FY) 2005 to 2012 (adjusted for inflation)..." (Trust for America's Health 2011, p. 5) This reduction in federal support indicates a potential critical shortfall as the three jurisdictions, which identified a funding source for their HSI capability, all indicated federal funds were used.

J. SUMMARY OF FINDINGS

The PLAT findings are supported by the analysis, simply put, jurisdictions with written plans more consistently accounted for the literature defined indicators of a mature, established intelligence program than those without written plans. While the presence of a given criteria in a written plan does not necessarily translate to that activity being performed well, or even at all, it is suggestive that the HSI program understands the need for the activity and it is at least being conducted in a rudimentary way. The PLAT findings were consistent in every variable. While the numbers of respondents indicating an HSI capability, whether with a plan or without, represented approximately 17 percent of the existing programs, this author posits that the results will extrapolate to the capability across all SLTT public health agencies.

V. RECOMMENDATIONS

A. FROM HERE TO THERE

The ability for public health practitioners to plan, prepare for, detect, respond to, and mitigate health security threats is more important now than ever before. The speed of worldwide modern society allows disease to spread across the globe in hours, rather than months. Medical breakthroughs in technology and science that have increased the ability to heal, have also brought new opportunities for rogue state actors and terrorists to develop, acquire and deploy chemical and biological weapons. Billions of dollars have been spent since 9/11 and the October 2001 anthrax attacks to increase this nation's capability to respond to these challenges. Yet, the flaws so prominently highlighted in the 9/11 Commission report related to failures of imagination and information sharing seem to still be very much a problem when it comes to health security threats.

To be sure, many activities are underway to mitigate issues associated with health security intelligence and information. Congress established the National Biosurveillance Integration Center (NBIC) within the DHS, in August 2007, whose mission is to, "...enhance the Nation's capability to integrate biosurveillance efforts" (United States Department of Homeland Security, 2011b). In 2008, the Defense Intelligence Agency established the National Center for Medical Intelligence (NCMI) that "...produces medical intelligence for global force protection and homeland health protection to safeguard U.S. interests worldwide" (United States Defense Intelligence Agency, 2008). The DHSS published the National Health Security Strategy in 2009 and the CDC along with the DHS's Office of Health Affairs both have worked diligently to improve the federal government's posture related to chemical and biological threats, along with other weapons of mass destruction. However, in their 2011 report on the state of bio-preparedness in the United States, the WMD Center (2011) stated, "Developing the nation's capabilities to respond to a large-scale bio-event requires capable and informed leadership at all levels of government." The report continued to say, however, that "Declining federal support for preparedness activities is translating to shuttering of

programs and staff layoffs at state/local health departments and threatens to erode progress made in bolstering surveillance” (WMD Center, 2011, p. 24). Additionally, a June 2010 GAO Report identified that, “a focal point has not been established with responsibility and authority for ensuring the development of a robust, integrated, national biosurveillance capability” (Government Accountability Office, 2010). The missing link in the chain is the SLTT HSI capability. Strengthening this capability across the nation will provide the kind of system-wide resilience, shared development of situational awareness and threat detection, and improvement of information sharing across all levels of government necessary to protect the nation. At the same time, the organization of these activities can provide the impetus for the identification of a lead organization that can guide these efforts and become that federal focal point.

Four fundamental areas of improvement are necessary to promote a nationwide HSI capability at the SLTT level and are offered as concrete recommendations from this thesis: 1) a national capabilities assessment related to HSI at the SLTT level, 2) an identified federal level agency to act as the lead for HSI activities across the nation or the development of written HSI plans, 3) concerted national guidance for the establishment of SLTT HSI programs, starting with guidance f, and 4) an ability to share SLTT best practices in HSI both vertically and horizontally that is inter-jurisdictional with other SLTT actors and with the federal government. Each of these four recommendations are addressed below.

B. NATIONAL SLTT HSI CAPABILITIES ASSESSMENT

The development of the PLAT for this thesis can provide a basic template for the creation of a national HSI capabilities assessment at the SLTT level. This thesis created a crosswalk for the PLAT that can guide the national level assessment. The data collected through such an assessment can be used to establish a national baseline of HSI capabilities that can be used to begin to address the current capability gaps. Most importantly, the assessment will demonstrate what areas SLTT jurisdictions will need assistance in related to guidance documents, programmatic templates (such as a planning template, integrating critical planning considerations), opportunities and shortfalls related

to programmatic funding, analyst training levels and numbers of HSIA nationally, as well as implications related to privacy, HIPAA and the ability to oversee, clear and distribute intelligence products. Table 23 describes what might be included, and why, in a national assessment of the HSI capability at the SLTT Level.

National Assessment of Health Security Intelligence for State, Local, Tribal and Territorial Jurisdictions	
Programmatic Formalization for HSI Capability	<ul style="list-style-type: none"> Assessment areas could include formal written plans, which can indicate if public health Jurisdictions are creating standardized, sustainable programs or simply responding to current trends within HLS, Memorandums of Agreement or Understanding with other HLS agencies to assess how public health jurisdictions are currently involved in the intelligence mission, if at all, and other markers of formalization.
Analyst Employment and Training	<ul style="list-style-type: none"> Assess the human resources commitment being made to HSI programs. Important for establishing a baseline for HSI Programs nationally, as well as determining potential issues with sustainability of programs. Eaneff, among others, outlines the challenges facing non traditional producers, users and recipients of intelligence products. Employing and training a cadre of dedicated analysts, with the proper training, experience and credibility to interact in the traditional intelligence realm will be necessary to build a sustainable HSI Program (Eaneff, 2008). Sims and Gerber (2005) indicate that the training analysts receive is a critical component to competency, as well as product development. Assessment of this area will be important for understanding how improvement can be made.
Fusion Center Involvement and Accessibility	<ul style="list-style-type: none"> At the SLTT level, the fusion centers represent the primary, formalized HLS intelligence capability. Seeking to understand how and in what way HSI is being utilized in the fusion centers is necessary. This will require fusion center buy in, possibly advocated for by the National Fusion Center Association or the DHS Intelligence and Analysis State and Local Programs Office.
Privacy and Oversight	<ul style="list-style-type: none"> Ensuring appropriate privacy controls are in place to protect the HSI data will be vital to public acceptance of further development of HSI programs. Existing fusion center privacy policies may need additional verbiage to reflect HSI data. HIPAA and other federal protections for information privacy need to be fundamental aspects of the HSI program and need to be base lined.

National Assessment of Health Security Intelligence for State, Local, Tribal and Territorial Jurisdictions	
Funding	<ul style="list-style-type: none"> Assessing current funding amounts, funding sources and support for funding related to HSI may expose critical gaps, which can be addressed at the federal, state and local level.

Table 23. National HSI Assessment Considerations

In addition to the national assessment identifying potential areas for improvement, it could also be used to identify the unique aspects of HSI at the SLTT level. A burgeoning recognition exists that SLTT jurisdictions are a largely untapped resource for the collection, analysis and dissemination of intelligence. Yet, little is being done to assess what capabilities SLTT organizations and personnel possess that differs from their federal level partners. It has largely been assumed that SLTT intelligence programs would need the same capabilities and tools as their federal counterparts, and would ultimately simply create a localized version of a national intelligence capability. Recently, however, it has begun to be recognized that something different might emerge. The apparent rise in the “homegrown terrorist,” one who is not on international watch lists and who does not face the increased scrutiny from law enforcement at the federal level that international terrorists might, demands that SLTT jurisdictions become more actively involved in the intelligence and counter intelligence paradigm. Indeed, this author’s home jurisdiction, the state of Georgia, recently saw a plot uncovered by the Federal Bureau of Investigation in which a militant group had begun the planning for the aerosolized release of the toxin ricin near state and federal government facilities (Jaslow, 2011).

A recent report by the Aspen Institute Homeland Security Group (2012) supports the need for a greater emphasis on SLTT intelligence involvement, stating, “This new approach to intelligence—serving local partners' requirements, providing intelligence in areas (such as infrastructure) not previously served by intelligence agencies, and disseminating information by new means—reflects a transition in how Americans perceive national security” (p. 4). By creating a national HSI capability assessment at the

SLTT level, identification of current strengths, uncovering of areas of needed improvement and recognition of the emergent capabilities of HSI programs can be achieved, supported and ultimately, strengthened.

C. IDENTIFYING A LEAD FEDERAL AGENCY

Identifying a single entity to coordinate the SLTT HSI capability is critical to the long-term success of the program. The failure to provide consistent, evolving guidance, which accounts for new developments in the intelligence field, provides coordination related to the recognition of emergent threats, seeks to assist in the sourcing of funding for programmatic activities, and advocates for the HSI capability at the federal level, would significantly impact its continued development. Three primary agencies would currently be best suited to provide this type of programmatic leadership, the Department of Health and Human Services (DHHS), Centers for Disease Control and Prevention (CDC), and the Department of Homeland Security's (DHS), Office of Health Affairs (OHA).

CDC's mission is to, "... collaborate to create the expertise, information, and tools that people and communities need to protect their health—through health promotion, prevention of disease, injury and disability, and preparedness for new health threats" (Centers for Disease Control and Prevention, 2011a). The CDC has long been the recognized leader, at the federal level, for the nation's public health efforts. Placing the responsibility for creating an overarching national framework for HSI across all levels of government, including the SLTT level, would instantly provide credibility within the public health community for this activity. The CDC also conducts a myriad of biosurveillance activities that would be integral components of a national HSI capability. The CDC already manages biosurveillance programs like Bio-Sense and the Early Aberration Reporting System (EARS), and the expertise obtained through the operation of these two programs could prove invaluable when trying to create and distribute guidance related to HSI. Additionally, the CDC has the subject matter experts to support SLTT actors when they believe a threat has been identified and are trying to formulate a mitigation effort or response.

The OHA's mission is to, "Provide health and medical expertise in support of the Department of Homeland Security mission to prepare for, respond to, and recover from all hazards impacting the nation's health security" (U.S. Department of Homeland Security, 2011c). OHA already supports and manages the BioWatch program, a national program that created a detection capability related to aerosolized releases of various biological agents. In addition, the OHA manages the National Biosurveillance Integration Center, which would provide SLTT HSI programs with a natural information conduit to report, share and receive HSI related information and products. The Office of Health Affairs also currently supports the portion of the Homeland Security Information Network (HSIN), an online portal designed to offer collaboration and information sharing related to critical homeland security information with SLTT agencies that deals with public health and medical information.

As previously noted, DHS also recently worked closely with the DOJ to develop guidance for fusion centers seeking to incorporate a HSI capability into their environments. The OHA would seem well suited to manage a HSI guidance program.

D. ESTABLISHING NATIONAL LEVEL GUIDANCE

The establishment of a national HSI capabilities assessment could naturally lead to the creation of concerted guidance on which all HSI programs could base their growth and maturation. The guidance would need to be developed and distributed by a trusted entity, most likely a federal agency that would be able to both support the product, as well as sustain it with updated information based on SLTT user feedback and changes in intelligence community best practices, national norms and standards in addition to those rules, regulations and protocols specific to the proper protection of health related information and privacy. The guidance would be based on the results of the National HSI capability assessment referenced above and incorporate additional areas of need identified by subject matter experts in the public health and intelligence communities.

Any national guidance document should seek to promote maturation and formalization of the HSI programs and processes at the SLTT level. Providing a template for development of a written HSI plan, preferably consistent with the guidance provided

in the Federal Emergency Management Agency's Comprehensive Planning Guidance (CPG) 101 (Version 2), would allow for SLTT jurisdictions to begin to adopt a set of standardized process that would lend themselves to comparison and assessment across jurisdictions (Federal Emergency Management Agency, 2011b). Currently, the HSI planning, both strategic and operational/tactical, occurring at the SLTT level is done with little standardization, which makes it difficult to assess programmatic capability or effectiveness. Basing the guidance for planning and the templates on CPG 101 would help to speed adoption at the SLTT level as it is the most widely recognized federal planning guidance document available. Ensuring that the guidance provided a consistent framework for programmatic development would provide for the ability to do programmatic comparisons related to effectiveness, design, best practices, and so forth. Finally, the guidance documents should be provided by a single, well-established and recognized federal entity charged with coordinating this task.

E. INFORMATION SHARING AND COORDINATION

A key advantage of a mature HSI capability at the SLTT level will be the increase in knowledge. Emergent smart practices, increased data collection and analysis and heightened visibility related to local health security trends and threats are all possible outcomes. Leveraging these aspects of a nationally developed, locally focused capability will require a robust information sharing and collaboration environment. Two programs exist designed to foster the sharing of best practices and lessons learned, as well as inter-jurisdictional collaboration; the Lessons Learned Information Sharing System (LLIS), and the previously mentioned HSIN.

LLIS is a secure online portal that "...serves as the national, online network of lessons learned, best practices, and innovative ideas for the emergency management and homeland security communities" (Federal Emergency Management Agency, 2011c.) This online collaboration and sharing system helps jurisdictions share, collaborate and disseminate innovative and best practices across the country. Some of the key features of the LLIS include the following.

- Security: *LLIS.gov* uses strong encryption and active site monitoring to protect all information on the network
- Verified Members: All *LLIS.gov* members are verified homeland security or emergency response professionals.
- Member Directory: *LLIS.gov* members can access the contact information of other members through the network's member directory. The advanced search function allows members to search the directory by a number of different parameters.
- *LLIS.gov* Channels: Channels are distinct, secure areas of *LLIS.gov* dedicated to the specific communities and topics of interest and are administrated by a designated *LLIS.gov* member or members.
- Collaboration Tools: *LLIS.gov* provides collaboration tools, such as secure messaging and a member forum that promote information sharing among members in real-time (Federal Emergency Management Agency, 2011a)

The LLIS system offers a good mix of information sharing and collaboration features and installed user base, while not traditionally being a real time or near real time system. However, LLIS is sponsored by the Federal Emergency Management Agency whose mission may not align well with the HSI capability.

The HISN system is, "...a national secure and trusted web-based portal for information sharing and collaboration between federal, state, local, tribal, territorial, private sector, and international partners engaged in the homeland security mission" (U.S. Department of Homeland Security, 2011a). Some of the key features of the HISN are as follows.

- Document Libraries
- Instant-messaging tool
- Web conferencing
- Incident reporting
- Common Operational Picture (COP) provides situational awareness and analysis
- Integrated Common Analytical Viewer (iCAV) gives geographical visualization
- Announcements
- Discussion Boards
- Task Lists

- Requests For Information/For Your Information (RFIs/FYIs)
- Calendars
- Really Simple Syndication (RSS) Feeds
- Online training materials (U.S. Department of Homeland Security, 2011a)

The HSIN has the advantage of being a platform dedicated to the sharing of intelligence related information. As opposed to the LLIS which is designed as a knowledge sharing tool. It is also managed and operated by the Department of Homeland Security's Office of Operations Coordination and Planning, potentially providing greater coordination with the DHS Office of Intelligence and Analysis, which currently supports the fusion centers through its state and local programs office. The HSIN suffered some early criticism upon its introduction for not considering the needs of SLTT jurisdictions, but those issues seem to be resolving as the platform matures.

Finally, the option of developing a completely new system designed specifically for the HSI purpose in mind can be advanced. Advantages to a new system could include helping to establish the HSI "brand," ensuring that the platform was HIPAA compliant from its implementation, rather than having to assess an existing system for its compliance, and a chance to build a system that could potentially interface with the myriad SLTT public health data collection system throughout the country. Potential problems with this approach would include which federal agency would sponsor and support it, as well as the difficulties of establishing a new system from the ground up including such challenges as designing the systems information technology architecture, gaining buy in from the user base, and establishing an advisory committee, just to name a few.

F. RECOMMENDATIONS FOR FUTURE RESEARCH

The PLAT was designed to be a qualitative analysis tool. The responses to the tool reflected as much, but also imposed limitations on the utility of the responses. Future research could include a more quantitatively rigorous assessment of the HSI capability as the SLTT level. The primary benefit of a quantitative analysis would be that it could

demonstrate performance, rather than simply document what is. Understanding how effectively the HSI capability is being conducted at the SLTT level would seem to be the next logical step in this area of research.

G. CONCLUSION

The health security intelligence capability at the SLTT level is poised to change the way public health and the broader medical community participate in the homeland security environment. At the same time, a concerted, SLTT focused, national HSI capability promises to provide dramatic benefits to the traditional public health community as well. From better interaction with first response partners in the law enforcement and fire disciplines, to an improved ability to serve the vulnerable and underprivileged communities that most need public health, HSI can be more than just another tool in the intelligence tool chest. Yet, to achieve these promises, the research suggests four things must occur.

- A federal advocate who can assist with the development of guidance and structure for the HSI capability at the SLTT level
- The maturation and formalization of the HSI programs at the SLTT level, starting with the development of written plans for this capability
- A concerted effort to develop and train HSI analysts who will provide the bulk of the innovation and maturation for HSI
- Dedicated funding must be provided. Whether carved out of existing budgets or provided through new federal grants until the HSI capability can fully demonstrate its usefulness to SLTT actors and receive greater SLTT support

As the still emergent HLS IC is not afforded the luxury of a long and storied tradition of the traditional intelligence community, the multiple successes of military and civilian agencies, or the vast budgets both possess, HSI programs will have to be able to demonstrate “frugal utility.” In other words, they must continue to mature and formalize their programs, within the constraints of current limitations. Doing so will require a dedicated and agile SLTT community that finds ways to innovate within existing budgets, while seeking new opportunities to fund its activities. Yet, the SLTT jurisdictions will need the support of the aforementioned federal lead to truly create a

national capability, rather than one existing in pockets of the country as is the case today. By starting with a solid foundation of local level planning, national guidance, and effective sharing of best practices and lessons learned, public health can leverage the collective efforts of the thousands of public health departments throughout the country to provide a dynamic HSI capability. This capability can both improve the security of the homeland, and provide the public health sector a new level of situational awareness and ability to serve its customers.

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APPENDIX A. PLANNING ASSESSMENT TOOL

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PHIAT Questions

[Add Questions to this section:](#)

1. Does the jurisdiction have a plan in place for a Public Health Intelligence (PHI) Program? ☐ Yes ☐ No ☐ Unknown

2. Please select the description that best fits the jurisdiction the plan was written for.

☐ State

☐ Local

☐ Tribal

☐ Regional

3. Which Health and Human Services Region is the Jurisdiction which the plan was developed for in?

4. Does the jurisdiction's plan indicate that all of the PHI Analysts have at least a secret level clearance? ☐ Yes ☐ No ☐ Unknown

5. According to the jurisdiction's plan, how many personnel are designated as PHI Analysts?

6. Does the jurisdiction's plan indicate the need for dedicated, full time, PHI Analysts? ☐ Yes ☐ No ☐ Unknown

7. What percentage of time does the plan indicate PHI Analysts are assigned to the PHI Program?

8. What type of personnel are assigned as analysts in your PH Intel Program according to the jurisdiction's plan?

☐ Epidemiologist

☐ Environmental Health Specialist

☐ Nurse

☐ Ems Staff

☐ General Emergency Preparedness Staff

☐ Other

9. If other was selected, please indicate the working discipline of the PHI Analyst (e.g. Emergency Management, Law Enforcement, etc)

10. Does the jurisdiction's plan indicate if PH Analysts are designated as such upon hiring? ☐ Yes ☐ No ☐ Unknown

11. Does the jurisdiction's plan indicate the need for a written MOU with the State or Local Fusion Center? ☐ Yes ☐ No ☐ Unknown

12. Does the jurisdiction's plan indicate PHI Analysts should attend formal Intelligence Analysis Training? ☐ Yes ☐ No ☐ Unknown

13. List any formal training courses or programs that the jurisdiction's plan indicates Public Health Intelligence Analysts attend.

14. Does the jurisdiction's plan indicate Public Health Intelligence Analysts are assigned to the fusion center? ☐ Yes ☐ No ☐ Unknown

15. Does the jurisdiction's plan indicate the Fusion Center is the primary work location for PHI Analysts? ☐ Yes ☐ No ☐ Unknown

16. If the jurisdiction's plan indicates that PHI Analysts are assigned to the Fusion Center, what percentage of time are PHI Analysts assigned to the center, according to the plan? ☐ Full Time ☐ Part Time ☐ Not Indicated

17. How many sources of public health data does the plan indicate are included in the Public Health Intelligence Analysis Process?

18. What sources of public health data does the jurisdiction's plan indicate are included in your Public Health Intelligence Analysis Process?

☐ Environmental Health Data

☐ Coroner Reports

☐ Biowatch Data

☐ Syndromic Surveillance Data

☐ Veterinary Data

☐ Laboratory Data

☐ Hospital Facility Data

☐ Ems Run/Trip Report Data

☐ Water Quality

☐ Air Quality

☐ Open Source Data

☐ Other

19. If other, please list the other data streams identified in the plan.

20. Does the jurisdiction's plan indicate a clearance process for vetting of intelligence products before their final release? ☐ Yes ☐ No ☐ Unknown

21. If yes, who (list position title) is responsible for final approval of the public health intelligence product according to the jurisdiction's plan?

22. Does the jurisdiction's plan indicate a formal oversight capability exists specifically for the PHI Program? ☐ Yes ☐ No ☐ Unknown

23. Does the jurisdiction's plan include internal safeguards for information security and counterintelligence? ☐ Yes ☐ No ☐ Unknown

24. Does the jurisdiction's plan indicate a process is in place to distribute unclassified versions of the PHI Products? ☐ Yes ☐ No ☐ Unknown

25. Does the jurisdiction's plan indicate a capability exists to maintain compliance with the Health Insurance Portability and Accountability Act of 1996? ☐ Yes ☐ No ☐ Unknown

26. Does the jurisdiction's plan indicate a formal funding stream exists to support the PHI program? ☐ Yes ☐ No ☐ Unknown

27. If the jurisdiction's plan indicated a formal funding stream was associated with this activity, please indicate what funding stream was outlined in the plan.

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APPENDIX B. PLAT RESPONSES

Response Frequencies

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Response Frequencies for:
Public Health Intelligence Program Planning Assessment Tool
Total Responses: 25

Does the jurisdiction have a plan in place for a Public Health Intelligence (PHI) Program?

Yes	6	24%
No	19	76%
Unknown	0	0%

[View Responses for this Question](#)

Please select the description that best fits the jurisdiction the plan was written for.

State	16	64%
Local	3	12%
Tribal	0	0%
Regional	0	0%

[View Responses for this Question](#)

Which Health and Human Services Region is the Jurisdiction which the plan was developed for in?

CHOOSE ONE	0	0%
Region 1	4	16%
Region 2	1	4%
Region 3	3	12%
Region 4	4	16%
Region 5	3	12%
Region 6	2	8%
Region 7	1	4%
Region 8	2	8%
Region 9	1	4%
Region 10	1	4%

[View Responses for this Question](#)

Does the jurisdiction's plan indicate that all of the PHI Analysts have at least a secret level clearance?

Yes	4	16%
No	7	28%
Unknown	3	12%

[View Responses for this Question](#)

According to the jurisdiction's plan, how many personnel are designated as PHI Analysts?

CHOOSE ONE	0	0%
Not Indicated	7	28%
1	3	12%
2	0	0%

3	0	0%
4	0	0%
5	0	0%
6	1	4%
7	0	0%
8	0	0%
9	0	0%
10	0	0%
More than 10	2	8%

[View Responses for this Question](#)

Does the jurisdiction's plan indicate the need for dedicated, full time, PHI Analysts?

Yes	4	16%
No	8	32%
Unknown	2	8%

[View Responses for this Question](#)

What percentage of time does the plan indicate PHI Analysts are assigned to the PHI Program?

CHOOSE ONE	0	0%
Full Time	3	12%
Part Time	2	8%
Not Indicated	16	64%
Other	4	16%

[View Responses for this Question](#)

What type of personnel are assigned as analysts in your PH Intel Program according to the jurisdiction's plan?

Epidemiologist	5	20%
Environmental Health Specialist	2	8%
Nurse	1	4%
EMS Staff	3	12%
General Emergency Preparedness Staff	4	16%
Other	6	24%

[View Responses for this Question](#)

If other was selected, please indicate the working discipline of the PHI Analyst (e.g. Emergency Management, Law Enforcement, etc)

[View Responses for this Question](#)

Does the jurisdiction's plan indicate if PH Analysts are designated as such upon hiring?

Yes	3	12%
No	7	28%
Unknown	3	12%

[View Responses for this Question](#)

Does the jurisdiction's plan indicate the need for a written MOU with the State or Local Fusion Center?

Yes	5	20%
No	5	20%
Unknown	3	12%

[View Responses for this Question](#)

Does the jurisdiction's plan indicate PHI Analysts should attend formal Intelligence Analysis Training?

Yes	3	12%
No	7	28%
Unknown	3	12%

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List any formal training courses or programs that the jurisdiction's plan indicates Public Health Intelligence Analysts attend.

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Does the jurisdiction's plan indicate Public Health Intelligence Analysts are assigned to the fusion center?

Yes	4	16%
No	6	24%
Unknown	3	12%

[View Responses for this Question](#)

Does the jurisdiction's plan indicate the Fusion Center is the primary work location for PHI Analysts?

Yes	3	12%
No	7	28%
Unknown	3	12%

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If the jurisdiction's plan indicates that PHI Analysts are assigned to the Fusion Center, what percentage of time are PHI Analysts assigned to the center, according to the plan?

Full Time	2	8%
Part Time	1	4%
Not Indicated	8	32%

[View Responses for this Question](#)

How many sources of public health data does the plan indicate are included in the Public Health Intelligence Analysis Process?

CHOOSE ONE	0	0%
1	0	0%
2	0	0%
3	0	0%

4	0	0%
5	0	0%
6	0	0%
7	0	0%
8	0	0%
9	0	0%
10	1	4%
Not Indicated	10	40%
Unknown	1	4%

[View Responses for this Question](#)

What sources of public health data does the jurisdiction's plan indicate are included in your Public Health Intelligence Analysis Process?

Environmental Health Data	8	32%
Coroner Reports	1	4%
Biowatch Data	5	20%
Syndromic Surveillance Data	7	28%
Veterinary Data	3	12%
Laboratory Data	8	32%
Hospital Facility Data	7	28%
EMS Run/Trip Report Data	5	20%
Water Quality	5	20%
Air Quality	3	12%
Open Source Data	6	24%
Other	3	12%

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If other, please list the other data streams identified in the plan.

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Does the jurisdiction's plan indicate a clearance process for vetting of intelligence products before their final release?

Yes	5	20%
No	4	16%
Unknown	4	16%

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If yes, who (list position title) is responsible for final approval of the public health intelligence product according to the jurisdiction's plan?

[View Responses for this Question](#)

Does the jurisdictions plan indicate a formal oversight capability exists specifically for the PHI Program?

Yes	4	16%
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No 5 20%
Unknown 4 16%

[View Responses for this Question](#)

Does the jurisdiction's plan include internal safeguards for information security and counterintelligence?

Yes 5 20%
No 3 12%
Unknown 5 20%

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Does the jurisdiction's plan indicate a process is in place to distribute unclassified versions of the PHI Products?

Yes 5 20%
No 4 16%
Unknown 4 16%

[View Responses for this Question](#)

Does the jurisdiction's plan indicate a capability exists to maintain compliance with the Health Insurance Portability and Accountability Act of 1996?

Yes 8 32%
No 2 8%
Unknown 3 12%

[View Responses for this Question](#)

Does the jurisdiction's plan indicate a formal funding stream exists to support the PHI program?

Yes 3 12%
No 7 28%
Unknown 3 12%

[View Responses for this Question](#)

If the jurisdiction's plan indicated a formal funding stream was associated with this activity, please indicate what funding stream was outlined in the plan.

[View Responses for this Question](#)

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